

Child Psychology



THE MACMILLAN COMPANY
NEW YORK • CHICAGO
DALLAS • ATLANTA • SAN FRANCISCO
LONDON • MANILA

IN CANADA
BRUCE MACMILLAN LTD
CALIF. ONTARIO

Child Psychology

CHILD DEVELOPMENT AND MODERN EDUCATION

by Charles E. Skinner, *New York University and*
Philip Lawrence Harriman, *Bucknell University,*

EDITORS, *with the collaboration of the following:*

AMY F. ARLY • LAWRENCE AUGUSTUS AVRILL

LORIN E. BIXLER • ELDEN A. BOND • JOHN W.

CHARLES • LESTER D. CROW • RALEIGH M. DRAKE

CLYDE HISSONG • CLARENCE F. RAGSDALE • GLADYS

RISDEN • J. J. SMITH • BRIAN E. TOMLINSON

THE MACMILLAN COMPANY

New York



PRINTED IN THE UNITED STATES OF AMERICA

To the memory of
PROFESSOR OSCAR CHRISMAN
PIONEER STUDENT OF PAIDODOLOGY
AND MASTER TEACHER
THIS BOOK IS AFFECTIONATELY
INSCRIBED BY ITS EDITORS

Preface

The point of view presented in this book is comprehensive, modern, integrated, and functional. Since the field of child psychology is exceedingly broad, a number of experienced teachers have collaborated in this undertaking. No single person can hope to speak authoritatively on all phases of child psychology. These writers have carefully examined the extensive literature in the field; they have taught the subject for a number of years; and, in the light of their knowledge and experience, they have endeavored to prepare a text on child psychology that will be helpful for parents and for students of education. The writers have kept constantly in mind their obligation to the general reader who is not an expert in this specialty. Hence the method of presentation is simple and factual throughout.

The primary emphasis is psychological, though much has been drawn from literature dealing with the physiological, social, historical, and philosophical aspects of child development. The mental and the physical development of the child is, we believe, both dynamic and purposeful. Any material, either old or new, that emphasizes this point of view is included in the discussions.

The writers were carefully selected for the specific contribution each was able to make. All of them have established connections with the leading institutions of higher education; and all of them are qualified, by training and experience, to speak with authority. A study of the table of contents will reveal the wide reach and the close integration of the material which they have included.

The plan is to present the problems of child psychology and to describe the methods employed in the scientific study of children. First, last, and always, the normal child is regarded as an integrated, growing personality. Physical, motor, dynamic, language, emotional, mental, intellectual, social, moral, religious, aesthetic, and play aspects of wholesome personality development are traced. Suggestions are made for intelligent guidance of child development. An account of the scope and the forms of personality maladjustments is presented, and a discussion of their prevention by a proper mental hygiene program is set forth. Who are exceptional and deviating children, and what can parents and teachers do for them?—these questions are considered and answered. Since many new discoveries have been made in the fields of how children develop and how wholesome and socially desirable growth may best be directed, this topic is reviewed afresh. The work of psychoeducational and of guidance clinics is described. The place of progressive education in promoting child guidance is also discussed. Throughout the book the reader is encouraged to substitute the scientific evaluation of child development for dogmatic, unfounded opinion. The final chapter is devoted to evaluation and integration of the whole discussion. In the appendix there is a useful study outline.

The table of contents will also show that the book has a definite unity of plan and at the same time a wide variety of contributions. This method of organization leaves no important aspect of child psychology unmentioned; and yet each contributor, guided by this general outline, was able to avoid duplication. A careful survey of the literature of child psychology, as well as the experience of the contributors, justifies this organization.

The writers constantly kept in mind the following persons who are intimately concerned with problems of child development and education: parents; students of education; members of administrative staffs in schools, institutions, and hospitals

dealing with children; and those public spirited citizens who might like to keep abreast of developments in this field. More especially the purpose has been to prepare a convenient, useful text for normal schools, teachers colleges, schools of education, and college departments of education. Ample materials, discussion questions, and further references have been included to enable the instructor to adapt the book to the needs of his own students in accord with his own outline or syllabus.

A Work Book in Child Psychology that is primarily based on this textbook has been prepared by Professor Raleigh M. Drake of Wesleyan College, Macon, Georgia. It can be secured directly from the author.

The editors express their indebtedness to all the contributors, who found time in their busy days to prepare this book for the convenience of the students and general readers into whose hands it may come. Particularly is grateful acknowledgment made to the following persons who assisted in the preparation of the manuscript: James Garrett, Eugene Shepard, Therese Newman, Elsbeth Melville, and William Mannix.

C. E. S., P. L. H.

Table of Contents

PREFACE	vii
1. CHILD DEVELOPMENT AND MODERN EDUCATION	1
<i>By Charles E. Skinner of New York University and Philip Lawrence Harriman of Bucknell University</i>	
2. HEREDITY AND EARLY DEVELOPMENT	22
<i>By Raleigh M. Drake of Wesleyan College, Macon, Georgia</i>	
3. PHYSICAL GROWTH IN CHILDREN	53
<i>By John W. Charles of Iowa State Teachers College at Cedar Falls</i>	
4. MOTOR DEVELOPMENT OF THE CHILD	73
<i>By Clarence E. Ragsdale of the University of Wisconsin</i>	
5. GROWTH IN MOTIVATION DURING CHILDHOOD	107
<i>By Clarence E. Ragsdale of the University of Wisconsin</i>	
6. LANGUAGE DEVELOPMENT IN CHILDHOOD	129
<i>By Clarence E. Ragsdale of the University of Wisconsin</i>	
7. EMOTIONAL DEVELOPMENT OF CHILDREN	154
<i>By Philip Lawrence Harriman of Bucknell University</i>	
8. MENTAL GROWTH IN CHILDREN	180
<i>By Philip Lawrence Harriman of Bucknell University</i>	
9. THE LEARNING OF CHILDREN	198
<i>By Elden A. Bond of Yale University</i>	
10. SOCIAL DEVELOPMENT OF CHILDREN	216
<i>By Lester D. Cross of Brooklyn College</i>	
11. CHARACTER DEVELOPMENT IN CHILDREN	253
<i>By Louis E. Bixler of Muskingum College</i>	
12. RELIGIOUS DEVELOPMENT OF CHILDREN	273
<i>By J. J. Smith of Muskingum College</i>	

13. AESTHETIC EXPERIENCE IN CHILDHOOD	299
<i>By Gladys Risdén, Vermilion, Ohio</i>	
14. PLAY LIFE OF CHILDREN	325
<i>By Amy F. Arey of Iowa State Teachers College at Cedar Falls</i>	
15. PERSONALITY DEVELOPMENT, MALADJUSTMENTS, AND MENTAL HYGIENE	347
<i>By Lester D. Crow of Brooklyn College</i>	
16. THE EXCEPTIONAL CHILD	388
<i>By Lawrence Augustus Averill of the Massachusetts State Teachers College at Worcester</i>	
17. THE PSYCHOEDUCATIONAL CLINIC	419
<i>By Brian E. Tomlinson of New York University</i>	
18. CHILD DEVELOPMENT THROUGH EDUCATION	442
<i>By Clyde Hassong of the Bowling Green State University at Bowling Green, Ohio</i>	
APPENDIX	
OUTLINE	465
<i>Prepared by Raleigh M. Drake of Wesleyan College, Macon, Georgia</i>	
INDEX	511

Child Psychology

Chapter I

Child Development and Modern Education

In the learned journals, scores of articles on child development appear yearly. The body of factual information about how children grow and how they learn is immense, and the field is still growing. Careful observations and laboratory experiments contribute much to our knowledge of children. Some of these scientific reports are of little immediate value; others have a direct bearing upon the training of children in the home and the school. The interpretation of the psychology of child development depends upon the aims and the values which we wish to emphasize. Scientific child psychology is descriptive, impersonal, and factual. Child guidance, on the other hand, involves purposes and values. Science discovers the facts and determines the efficacy of various procedures; guidance determines what facts are important and what goals should be achieved.¹

THE GOAL OF CHILD GUIDANCE

From Plato to the modern period much has been written about aims, objectives, and values in child guidance. In various ages and under different political systems many divergent points of view have been expounded.² A survey of recent literature indicates that philosophers, educators, psy-

¹ A lucid, concise account of aims and limitations in science is to be found in J. Arthur Thomson, *Introduction to Science*, New York, Holt, 1911.

² See the section headed *Theories of Child Nature*, pp. 7-8.

This chapter was written by Charles E. Skinner and Philip Lawrence Harriman.

chiatrists, and psychologists all agree upon the importance of good health and happiness in childhood. Parents used to expect their children to contract such diseases as whooping cough, measles, and mumps; but now the physicians seek to protect children from exposure to these ailments. Teachers and parents used to believe that children ought to be trained in character through defeats, frustrations, and insuperable difficulties. Now we know that success is the best stimulant for further achievement.

Modern science has made important discoveries about the manner in which children grow. We should take too limited a view of the growth process if we restricted it solely to physical development. Children grow in experience just as they grow in weight and height. Perhaps the importance of the learning process is not even yet fully appreciated. Growth is an active, dynamic process that involves ceaseless change. Every experience leaves its trace and thus determines the nature and the course of subsequent experiences. Experiences with desirable and successful adjustments predispose the child to continue in the right direction; failures tend to produce despair or rebellion. Recent thinkers about child development have reached such a conclusion.

GROWTH AND THE DEVELOPMENTAL POINT OF VIEW

Desirable growth is dependent upon the proper interaction of many factors, such as environment, endocrine secretions, health, maturation, and education. Consequently, the problems of child development often lead us into such diverse fields as sociology, pediatrics, anthropology, psychiatry, and clinical, educational, and genetic psychology. We should not look upon our field as a narrow segment of knowledge, but we should draw from any source that will enrich our understanding of child development. Recent studies of child development have repeatedly suggested the futility of attempting to understand child behavior in terms of cross-sectional analyses or of highly specialized approaches.

The unifying scientific concept used by all students of child behavior is *growth*. As Gesell points out:

Growth carries a more dynamic connotation [than the traditional ideas of health and disease]; it organically ties the present with the past and directs it toward the future; it places an emphasis on the total economy of the individual and a premium upon personalized periodic supervision . . . [it] comprehends in a dynamic and relative way all types of children. It embraces the so-called normal child. In fact, it places a new premium upon normality, and gives us the impulse for constructive as well as preventive measures for this normal child. The concept of optimal growth also reveals both the scientific and the practical value of standards of development.¹

Individual achievement takes on new significance when it is interpreted in terms of the individual's own growth curve and cycles of development. The process of maturation may not be revealed in the increments of growth considered separately. This process may best be studied by noting "the movements which give rise to an organized behavior-pattern, as well as the chronological sequence in which behavior-patterns reach maturity."²

The developmental point of view, therefore, emphasizes the importance of longitudinal studies of children. Growth takes place slowly and continuously. Early experiences, childhood diseases, emotional shocks—these are just a few of the many factors which predetermine in some degree all subsequent development. The adjustive habits, attitudes, motives, and actions of adults can be understood in the light of experiences that take place during the years of infancy and childhood. In a large sense, early developments are predictive of what is to follow. Growth involves a continuous reorganization of experience. Every phase of growth is based upon preceding experiences; and thus, too, each experience influences the course of later growth. It is entirely fallacious

to think of separate growth "stages" in human development. On the contrary, there is a continuity, a wholeness about the growth process.

Whether a child is to develop into a wholesome, well-adjusted personality or into a maladjusted, warped adult is principally determined by the nature and the quality of the growth process during the earlier years of life. Neither a "nervous breakdown" nor an incorrigible adolescent is the result of any sudden, immediate experience. Although the climax may appear all of a sudden, it is preceded by a long history of events and conditions. Likewise, the growth of a wholesome personality proceeds in a continuous, gradual manner. Ethical character, ability to get along with other people, a sense of relative values, and an appreciation of beauty are the outcomes of a long sequence of desirable experiences.

Consequently, of great importance to teachers, parents, and mental hygienists is the fact that growth is most rapid during the early years of life. Scientific evidence supports the assumption that these are the golden years for personality development. By establishing the proper controls in the home and the school, it is possible to ensure the most desirable sort of growth. Particularly is it true that modern progressive education provides situations which afford the proper type of experiences. In the conventional school, on the other hand, many basic principles of mental hygiene are flagrantly violated.

Growth takes place in orderly fashion according to laws which are now rather well understood. Experimental proof has been submitted by Gesell to show that "patterns of behavior in all species tend to follow an orderly sequence in their emergence."¹ He adds that "this genetic sequence is itself an expression of an elaborate pattern—a pattern whose

basic outline is the product of evolution and is under the influence of maturational factors." This orderliness of growth makes possible the dependable studies of developmental processes. Thus Binet, the founder of intelligence testing, was able to work out the following levels in the growth of ability to think: (1) ability to compare and select; (2) ability to classify; (3) ability to generalize; and (4) ability to originate. Naturally, a child behaves like a four-year-old before he acts like a five-year-old. He can enumerate objects in a picture before he can describe the picture, and he can describe before he can interpret the picture.

Hence, in a discussion of school grading, Risdén¹ advocates that the teacher ascertain each pupil's present level of thinking ability and seek to develop his insight into the nature of the "next step." She recommends that research work be undertaken to discover more valid means for the determination of the degree of development and the symptoms of readiness for each activity or subject in the curriculum. A valid growth scale has already been developed for natural progress in learning how to read. Binet, Terman, Doll, and others have published graded series or behavior schedules in many aspects of child development. Modern psychology has found no evidence of absolute and universal age differences in the nature of growth. On the contrary, development proceeds in a relative fashion, the behavior patterns of one child being comparable to those of another child who is older or younger.

Many studies in child development point to the conclusion that there is a fair degree of constancy in the relative growth rates. Exceptions, however, are quite numerous. Therefore, the guidance expert and the mental hygienist should be informed about the possible causes of radical variations from the average. Furthermore, the developmental schedules and growth scales are based upon studies of a great many children; hence, no individual child should be expected to con-

form in all particulars to these broad standards. For example, a well-known height-weight table¹ indicates that a five-year-old boy is thirty-eight inches tall and thirty-four pounds in weight. That does not mean, however, that every boy at age five must have this height-weight status. The table merely gives the averages for each age.

Growth implies a differentiation of behavior. The course of development is from generalized to specialized behavior, from mass movements to particularized actions. Technically, this process whereby smaller and partial patterns emerge from a larger pattern is called *individuation*.² Growth through individuation, which enables the individual to adapt to more specific elements of the environment, comes about primarily as a result of external stimulation. For instance, appreciation of intricate geometrical and architectural patterns emerges from sensory experiences with undifferentiated spatial patterns.

Growth also implies integration. This term refers to the process of unifying "parts" into a whole, so that the individual operates smoothly, easily, and economically, with resultant satisfaction. Although there is some degree of integration present in every organism, it finds its highest expression in happy childhood. In adult life, an optimum amount of integration implies health, success, happiness, security, social behavior, creative experiences, and artistic expressions. The wholesome personality is, in other words, a well-integrated personality.

THE MEANING, SCOPE, AND SIGNIFICANCE OF CHILD PSYCHOLOGY

Child psychology includes a broad field of knowledge. All that has been learned about physical and psychological development from the time of conception to the onset of adolescence lies within its province. More specifically, the field of

child psychology is concerned with such topics as: infant behavior; development in mental, motor, physical, linguistic, emotional, social, religious, aesthetic, and play activities; and the growth of purposeful habits and appropriate personality adjustments. For convenience, we often consider the child in particular aspects or from somewhat limited points of view. We should, however, never lose sight of the fact that the child is a whole, not an aggregation of isolated parts or functions. It is the whole child that is developing and that requires guidance from parents and teachers.

All the great lines of child growth affect each other in a dynamic fashion. We need to get a clear idea of growth from birth to adulthood, not only of the child as a whole, but along the main lines of physique, intelligence, social behavior, and emotional adjustment.¹

Thus, by noting particular lines of development, we are enabled to get a clearer understanding of the whole course of progress.

Proper guidance of children has great social significance. The better our children are guided and directed, the more likely is it that they will play a helpful role in society. Only through an educated citizenry will there be any desire to improve human relationships, to eradicate injustice, and to establish a better social order. Fortunately, children are plastic and dynamic, and hence they are amenable to guidance. This fact makes human progress possible. The discoveries of child psychologists and the tested views of leading educators justify the hope that progress can be assured.

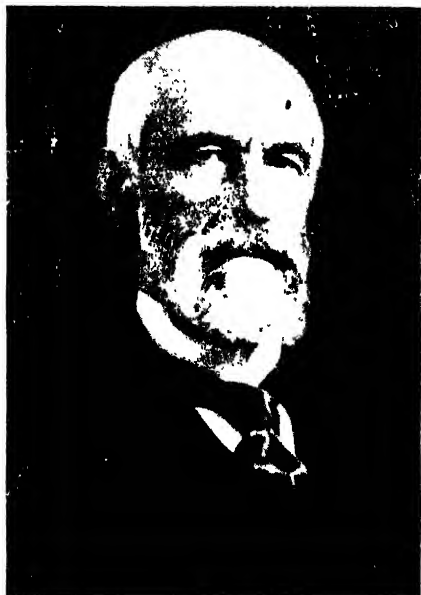
THEORIES OF CHILD NATURE

From early times, various theories of child nature have been upheld. Many of them have long since been forgotten or discredited. Some are alluded to in subsequent chapters; hence

they receive only brief mention here. A few theories have been so influential that they merit special consideration.

Some thinkers have regarded the child as "conceived and born in sin" and have taught that only by stern discipline or regeneration can the child be improved or redeemed. "Spare the rod and spoil the child" has been an influential slogan. Others, like Rousseau and Wordsworth, have upheld the notion that the child is unspoiled and pure but becomes corrupted through contact with adults. At one extreme, the child is regarded as a little demon; at the other, the child is looked upon as "trailing clouds of glory." A few influential writers, including G. Stanley Hall, have advanced the curious thesis that the child's developmental stages correspond roughly to those of the race. In other words, the child is thought to recapitulate all the experiences of the human race in its emergence from savagery to civilization. Many theorists have taught that the child is motivated by instincts and emotions which gradually unfold in the process of development. Believers in the prepotency of heredity have stressed the importance of the biological inheritance. They have often derided all efforts to stimulate mental growth and to guide development. Environmentalists, on the other hand, have optimistically emphasized the importance of education, of social institutions, and of good surroundings and proper medical care. Locke said that the child's mind is like a blank tablet upon which training and experience write. Some have advocated the theory that the child can control his purposes and conduct by the exercise of will.

In each of the various theories there is, no doubt, some truth; but each of them represents a limited point of view that has serious limitations. Only through careful research and rigorous experimentation can we hope to understand the child. The point of view throughout this book is that the child should be studied by the scientific method and that we should not accept any notion which might prejudice us without considering all the facts.



G. Stanley Hall, pioneer in child study, adolescence, and senescence. (Photograph from Keystone View Co.)



Arnold Gesell, leader in the study of the development of the normal child.



James H. Crockett, pioneer in the study of the subnormal and abnormal child. (Photograph by Reichsch.)



Lightner Witmer, founder of the first psychological clinic, and for 15 years its director.



William D. Hale, pioneer in the study of behavior, delinquency, and conduct disorders. (Originally from International Child Protection Service.)



Frank N. Freeman, outstanding authority on the ways in which children learn and the influence of environment on child development.



John E. Anderson, a representative leader in the field of child development and guidance.



J. E. Wallace Child, a pioneer in the study of severely handicapped, and maladjusted children.

METHODS USED IN CHILD PSYCHOLOGY

Accurate, valid, factual information about children is dependent upon the use and development of scientific techniques. The more important methods in child psychology are the following:

1. Subjective diagnosis and appraisal.
2. Controlled subjective observation.
3. Rating scales and questionnaires.
4. Case study.
5. Psychophysical studies.
6. Experimental methods.
7. The clinical method.
8. Biography.

Subjective diagnosis and appraisal is a method of acquiring information about children's behavior and development through spontaneous, uncontrolled observation, unverified by accurate measurements. Since time immemorial it has been followed by parents, teachers, writers, fictionists, and many other people. No doubt, it will long continue as the only method that some people will ever use. Familiar anecdotes and "bright sayings" of children are common examples of the use of this method. Subjective observations contribute to the mass of "common-sense" information about how children develop and how they should be educated.

Unquestionably, much of this material is of great value, though usually it is incomplete, distorted, and colored by prejudice. A parent observing the development and behavior of his or her own offspring is likely to emphasize favorable aspects and to omit factors which might have considerable significance. If the observer is committed to a particular theory, he may be prone to look for facts which will support his view. In general, this method is uncritical and unsound. Many mistakes regarding childhood have arisen through its use.

Uncontrolled observation in any field is inadequate as a means of acquiring scientific knowledge. Important behavior

patterns may escape unnoticed, and causal factors may go uncontrolled. Generalizations may be drawn from too few instances, and standards of comparison may be lacking. Details may not be clearly remembered. Personal bias is almost certain to enter into the picture. In spite of these and other weaknesses, however, this method is useful in that it often arouses interest in the psychology of childhood and uncovers problems that must be answered by scientific procedures. The serious student of child psychology must be fully aware of the limitations of the method of subjective diagnosis and appraisal.

Controlled subjective observation is a logical refinement of this method. It may best be described by quoting from Anderson:

Systematic observation refers to the method in which the observer selects beforehand, from the mass of events occurring in the development of a child, a particular situation or series of situations for observation and develops a technique whereby the responses of the child are recorded systematically following a predetermined plan. Emphasis, however, should be placed on the fact that the behavior which is recorded is that which occurs naturally. As soon as conditions are artificially controlled or the stage is set in advance, we move over into the experimental and test methods.¹

The *check list* or *symptom sheet* is a device frequently used to aid observation. It consists of a prepared form on which a large number of items are listed. The procedure is for the observer to check off the appropriate items which are displayed in the behavior of the child. The method of *time sampling* is another well-established device for improving the quality of controlled subjective observations. The investigator who employs this technique notes the occurrence of a particular type of behavior during selected periods of time. Thus, the psychologist is able to determine the reliability of a limited observation and, through statistical procedures, to learn what

length of observation must be used to obtain results that accurately characterize the child.¹ Olson and Goodenough, by whom the technique was developed, have effectively used this method.²

Among the techniques of subjective observations, *community surveys* may be listed. These are employed in gathering data about the operation of social factors in the development of children. Surveys are limited to those types of data that can be easily collected and recorded. Although suggestive and useful, community surveys are not necessarily conclusive. The collection of data may magnify the obvious and the unimportant, and the data may not include the most significant features of the situation.

In another technique, known as *situational analysis*, a comparison is made between the behavior of the same children in different situations.³ Behavior at home may, for instance, be compared with that at school; social reactions in one situation may be compared with those under different social conditions.

All of these detailed procedures of controlled subjective observation may be employed in precise, exact ways. Often, therefore, they approximate a scientific experiment. Under the heading *experimental methods* there is a further discussion of controlled observation.

Rating scales and questionnaires have been extensively used to collect and classify information about children. A rating scale is a device for measuring behavior characteristics or traits that do not readily lend themselves to precise measurement and statistical manipulation. In the order-of-merit type of rating scale the individuals are placed in a rank order position with reference to one another. The child who has

the trait in question to the highest degree is ranked first, and the one with the least degree is placed at the end. The rest are distributed between these extremes.

Another type of rating scale makes provision for checking various characteristics of a child, such as the following:

INDUSTRY

- Voluntarily sets for himself and performs additional tasks.
- Cheerfully does all assigned work, but does not seek additional undertakings.
- Performs routine assignments with a minimum of prodding.
- Requires occasional prodding to get work done.
- Needs constant prodding to keep him at work.

The observer checks the description that, in his judgment, best describes the child. Rating scales have been devised in a number of other forms.

The validity of the method of rating scales has been questioned in recent years. The procedure is frequently based upon false assumptions regarding qualities or traits that are rated.¹ For example, several observers may differ about the meaning of a given trait; they may not agree about what the average and the extreme ratings of the trait are; and they may be influenced by the "halo effect," a phrase which means that status on one trait may influence judgments about status on other traits. Of all the criticisms of the rating scale, the halo effect is most frequently cited. A typical criticism of the rating scale procedure is given by Boynton:

In the Peabody Demonstration School records, the personality rating scale asks the teachers to check with a 2 any characteristic which they have seen manifested in extreme degree; with a 1 if they have seen it manifested only at times or to a minor degree; and with a 0 if they have never seen it manifested. Forty characteristics of a type such as the following are listed: apathetic, bashful, coöperative, dependent, energetic, happy, immature, impetuous,

¹ Murchison, *op. cit.*, p. 21.

lazy, moody, popular, quarrelsome, respectful of authority, self-reliant, sex-conscious, suggestible, talkative, and unreliable. It has been found from a use of the scale that some teachers score a large number of 2's on some points, and 0's on others, and that other teachers actually may reverse this arrangement with the same points.¹

Gesell has developed normative summaries of development which may be used to rate the level of growth achieved by a child.² At each level his schedule is divided into four main categories: motor, language, adaptive, and personal-social development. Under each category there is a description of a number of typical actions which are normal for the age in question. This schedule is one of the best standards ever published for rating individual child development.

The *questionnaire* method was popularized by G. Stanley Hall, who is often referred to as the father of the child study movement in America. This method of investigation had been used by Galton in his famous study of types of imagery. Hall's first questionnaire, published about 1890, was adapted from the method used in an investigation by the Berlin Pedagogical Society in 1869. A series of questions was given to investigators to ask of children in an attempt to understand child behavior. The results were analyzed statistically, and conclusions were then drawn from the data. In the first quarter of this century, questionnaires were extensively used. Some were loosely and imperfectly drawn up, and many times the children did not answer truthfully or comprehend the meaning of the questions. In general, this method should be used with great caution, since it often involves serious errors. It is, in fact, less a method of obtaining scientific knowledge than a means for discovering problem situations which must be investigated by more rigorous procedures.

Case histories are intensive studies of all relevant data about an individual. They include family history, school experiences, socio-economic situations, all data about personal development, and information regarding physical and mental growth. In fact, nothing which would help toward a better understanding of the individual child can be omitted from a case history. All the data are carefully organized, analyzed, and interpreted. Case histories are invaluable in diagnosis and guidance.

For a long while case histories dealt only with "problem" children; hence they did not contribute much to our understanding of normal childhood. More recently, however, case studies of normal, healthy girls and boys have been made. "As a method of approach to the problems of a particular child," says Brooks,¹ "the case study method is irreplaceable. As a method of scientific research, its results must be viewed with caution. Only when the studies of large numbers of children are carefully compared to discover uniformities, deviations, and cause and effect relationships, can trustworthy conclusions be drawn." The validity of conclusions based upon case histories depends, of course, upon the objectivity and scientific accuracy with which they were made.² An excellent series of case histories has been published by Gesell.³

Psychophysical studies are usually made in connection with some of the other techniques mentioned here. *Medical examinations and anthropometric measurements*, as well as *physiological, endocrinological, neurological, and nutritional studies*, often bring to light significant facts about the child. An important field of child psychology includes the research work correlating physical development and growth in behavior. Any adequate investigation of psychological development must be founded upon knowledge of the progress of physical growth. In the

case study of an individual child, the medical examination may reveal the cause of a particular adjustment problem. Nutritional studies are of great value in child psychology, since it may be possible to alter behavior by giving the child a more wholesome diet.

Experimental methods are the culmination of the evolution of procedures in child psychology. Briefly, an experiment is a special kind of observation under controlled conditions. The guiding principle of an experiment is to allow only one thing to vary at a time.¹ The experimental method in child psychology is no different from that in any other field of knowledge. Since, however, various experimental procedures are employed in the study of children, we speak of experimental methods.

The use of *control groups* is a common procedure in child psychology. The performance of one group in an experimental situation is compared with that of a parallel or an equivalent group not subjected to the rigorous scientific controls. Thus it is possible to infer the presence of a single factor or the efficacy of a given procedure. The group used as a sort of standard of comparison is the control group. In some experiments there are two kinds of control groups: (1) a sampling is taken from the general population to serve as a standard of comparison, and (2) the experimenter carefully arranges the children in pairs, the members of each pair being as nearly alike as possible. Then the experimenter subjects one member of each pair to the experimental situation, and draws conclusions by comparing these children with other members of each pair who were not experimented upon. The group chosen from the general population is called the *random control group*, and the group made up of nonexperimental members of pairs is known as the *paired control group*.

The work of Gesell² amply demonstrates that when con-

trolled observations are carried out under scientific conditions the method is experimental. In his studies of infant behavior, Gesell made records of natural responses to a variety of situations. Natural behavior was assured by concealing the observer from the child through the use of a *one-way screen*. In one series of observations the children were placed in a *photographic dome*; thus they could be watched and photographed without being disturbed by awareness of observers. Through the use of films the investigators are able to study and analyze the response as many times as may be necessary.

The *experimental cabinet*, another device which permits an undetected view of the infant, has been used in a number of studies, particularly by Weiss and his students. It consists of a compartment in which the child is kept for long periods of time, while the unseen observer jots down notes on the child's behavior. The observers work in relays; hence the child may be watched for lengthy periods. Obviously, this procedure is limited to the study of small infants.

In the development of techniques for controlled observations, an important factor has been the improvement of *check lists*. Through the standardization of these lists, it has been possible to deal with observation records statistically, a treatment which often increases the meaningfulness of the data. *Statistical analysis* is, at the present time, one of the most widely used procedures for organizing and interpreting data obtained by testing, observation, ratings, and experiment. The term *factor analysis* refers to a highly specialized type of statistical treatment which facilitates the determination of the presence or the absence of common factors. The details of this method lie far beyond the scope of this book.

Through *psychological tests* a great deal of information has been accumulated. About 1889, Oehrn, one of Kraepelin's students, published the first test of intelligence. The intelligence test movement really commenced, however, with the

"Bibliography of the Yale Films of Child Development " The films are specially edited units, some with a sound commentary by Dr. Gesell.

publication of the Binet-Simon scale in 1905. Now there are many mental tests, individual and group, linguistic and performance, speed and power. Other types of psychological tests have become widely used, such as tests of social intelligence, various aptitudes, motor ability, character traits, and personality. Some bibliographies list as many as three thousand tests, many of which are intended for use with children. Although tests are of inestimable value in child psychology, they are often used without a knowledge of their limitations. It is much more important to interpret carefully the results of a few excellent tests than to give an indiscriminate number of hastily selected tests that are not thoroughly interpreted.

The clinical method in child psychology usually consists of the writing of a *case history*, a series of *interviews* to obtain supplementary relevant data, the giving of *tests*, a *diagnosis* and a *prognosis*, and the planning and supervision of a *remedial program*. When all relevant data have been assembled, the clinician may have a good basis upon which to formulate an hypothesis. If the remedial program actually does eliminate the child's problem, then the clinical method becomes somewhat like an experiment. Of course, before valid scientific conclusions may be drawn, a large number of children must be studied, and adequate controls must be employed.

An enormous amount of literature deals with the method of *psychoanalysis*. The procedure consists of attempts to analyze the stream of consciousness and infer the existence of underlying conflicts, repressed memories, and basic drives. From the standpoint of the scientific psychologist, this procedure is open to question. In the first place, the concepts of psychoanalysis are not experimentally established. In the second place, children are likely to accept suggestions from the analyst, and thus they furnish answers that support the preconceived hypothesis. In the third place, psychoanalysis is more of a cult than an established scientific point of view.

The biography is one of the oldest methods of child psychology. Pestalozzi, in 1774, published one of the earliest

systematic studies of children, a book entitled *Journal of a Father*. About 1787, Tiedemann's *The Development of the Mental Faculties of Children* appeared. The most objective and scientific of these early biographies is that of Preyer, which was printed in 1881. This book describes in careful detail the first forty months in the life of his own child. Preyer followed a careful schedule of observations and included in detail the development of senses and motor abilities. Shinn, Scupin, Whipple, Fenton, Stern, Valentine, and Watson have also written excellent biographies of children. Many biographies, however, include too little detail and draw inferences too uncritically.

In general, the development of methods in child psychology has been from armchair speculation to experimentation. The outstanding feature of this development is the introduction of refined techniques. The child psychologist is committed to no single technique, but he employs any procedures that satisfy the rigid canons of science and produce the necessary data. In the words of Anderson, "Scientific sin consists not so much in the use of a particular method as in the failure to use a more adequate method for the problem in hand when such a method is available." ¹

THE SCIENTIFIC STUDY OF CHILDREN

Prediction and control are the aims of child psychology. These aims can be realized best when the methods in collecting, organizing, analyzing, and interpreting data are scientific. In the past quarter of a century a great deal of progress has been made in developing a scientific psychology of childhood.

The student of child psychology must have an adequate philosophy for interpreting the significance of these scientific discoveries. He must realize that it is necessary to study the whole child in all environments; hence he must have a broad knowledge of the whole field of child behavior. His diagnosis

of difficulties, his predictions of development, and his guidance of the child must be based upon all pertinent data. He must never forget that the scientific method implies a freedom from bias and prejudice, a willingness to take into account all the facts, and an open-mindedness about interpreting the findings of science. Finally, he must never forget that each child must be dealt with as an individual.

A knowledge of all the facts of child psychology is no guarantee that the parent and the teacher will guide children wisely or effectively. Nevertheless, the deeper their insight into child nature, the more likely will they be able to serve as helpful guides. Insight based upon valid information will result in fewer errors of judgment. Children who come under the inspiration and guidance of the informed parent or teacher will be happier, more successful, and better adjusted than children who are improperly directed. It is up to the student. He can become a better child psychologist if he masters the succeeding chapters and sees to it that this knowledge functions in his daily contacts with children.

QUESTIONS AND EXERCISES

1. What is child psychology? Of what value to parents and students of education is a knowledge of child psychology? Under what conditions does sound knowledge of a subject such as child psychology become of real value to the student?
2. What is the growth concept that is expounded in this chapter? What difference does it make when aspects of development are interpreted in the light of this growth concept?
3. Are the facts and principles of child psychology based on mere unsubstantiated opinions of people? In what sense is child psychology an emerging science? How does science differ from opinion?
4. What methods have been used in the study of children? Consider the advantages and weaknesses of each of these methods.
5. What evidence have we that the personality is dynamic rather than static? a whole rather than an aggregate of discrete traits, habits, or elements?
6. Comment on the statement that the teacher does not know the

whole child. Is the whole child known to the parent? Does the child know himself entirely?

7. Defend the thesis that each parent and teacher needs a philosophy of life and education in terms of which he should interpret child behavior.
8. In anticipation of subsequent chapter discussions, do you believe that character development, emotional development, mental development, religious development, etc., involve the whole personality?
9. What roles in child development are played by heredity and environment? by education and health? Does the child possess any capacity for voluntary choice or willing and thus become a factor in his own growth?
10. Does the child psychologist offer to parents and teachers a formula which will enable them unerringly to avoid mistakes? Explain fully.

Chapter 2

Heredity and Early Development

HEREDITY

The potentialities of any individual's life depend to some extent upon heredity, because each child inherits certain physical, "mental," and behavioral traits. It will help our understanding of the child and his development if we trace the cycle of life and the transmission of inheritable traits from one generation to another.

Principles of heredity. Heredity operates in the following very general ways:

1. In general, like produces like. A pigmy child resembles his parents, a Negro child his parents, and so on for all other characteristic racial differences. Nature sees to it that each species or genus breeds true to type, save where there are laws governing occasional deviations.

2. Only certain traits are inheritable. The laws of heredity do not cover all human traits and can be used to explain but a fraction of human behavior. It is not an easy matter to discover just what traits in the human species are inheritable. Many that were at one time so considered have turned out to be environmentally determined.

3. The child's maternal and paternal lines each contribute fifty per cent of his total inheritance. More specifically, one-half comes from his parents, one-fourth from his grandparents, one-eighth from his great-grandparents, and so on for all the other more remote ancestors.

4. Within the limits of potential traits transmissible by

This chapter was written by Raleigh M. Drake.

heredity, chance plays an important role, making absolute predictions almost impossible.

5. Some traits are dominant over others, causing apparent exceptions to the principle of "like produces like." However, a knowledge of these laws does not show how they operate. Let us look more closely and see what steps are involved in the process called heredity so we may understand some of its intricacies and dispel some of its common misconceptions.

Process of heredity. First, there are two kinds of reproductive cells, the male sperm cells and the female cells, called ova. If we examine a single sperm cell we find that it is composed of twenty-four pairs of chromosomes, forty-eight in all. One-half of the chromosomes were contributed by the individual's paternal line and the other half by his maternal line (Stage 1 in Fig. 1). At this stage the cell is not yet matured. As cell growth continues, and just before the cell is ready to unite with the egg, or ovum, the chromosomes are set into a state of flux, during which they are entirely rearranged. Yet, for the forty-eight chromosomes in any cell, each is paired with the one with which it started (Stage 2 in Fig. 1). The cell then undergoes a reduction division in which each of the two new cells contains one of the groups of chromosomes from the parent cell (Stage 3 in Fig. 1). The final division is a simple division of cells, with each group keeping its identity, while further maturation equips the cell for union with the egg (Stage 4 in Fig. 1). The development of the ovum parallels closely that of the sperm. The main difference occurs in the last stage, where one cell develops into the egg while the other three are isolated and do not develop. At this point, any of the four sperm cells are mature and functionally able to unite with the mature egg, and thus start a new life. This life carries a new cell with a new pairing of chromosomes, one group from the mother and one from the father, and another cycle is ready to begin.

One significant thing in all this chain of events is the role played by chance. With the first change in the germ cell,

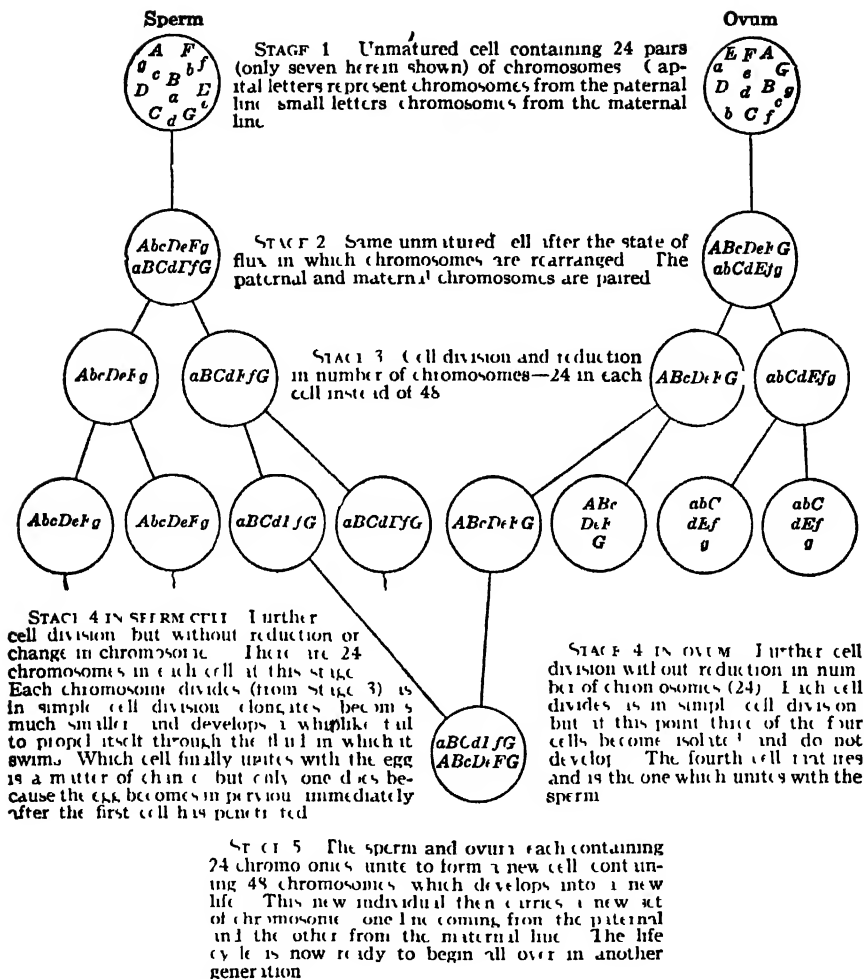


FIG. 1 Diagram showing the process of heredity.

chance determines which chromosomes will be in the two series. In the stage of cell division and chromosome reduction, chance dictates which chromosomes go to each of the two new cells. Consequently, many of the parents' traits are lost and not transmitted to the child. In the union of the sperm and ovum, chance selects the particular cells which unite. It should be noted that at any stage in the maturation of the germ cells, only one ovum finally develops, and, as soon as it has been fertilized, it becomes impervious to other sperm cells. Which particular ovum finally matures, and which particular sperm first penetrates it, are chance matters having far-reaching consequences.

When it is remembered that (1) there are 24 chromosomes present in each human sperm and ovum, and that by combination these will give rise to more than a million possible kinds of germ-cells in the F_1 generation, (2) that the number of combinations which two such sets of germ-cells may produce through fertilization is much greater, and (3) that each chromosome bears a large although unknown number of genes, or factors, we begin to understand why two identical human beings are unknown and why variations are distributed according to the laws of chance.¹

In our discussion thus far, it has appeared that chromosomes are the units which determine various traits. This is only partially true. Each chromosome contains an unknown number of genes, probably fifty or more, each one thought to be a determiner of some one or more traits. However, each gene does not always operate independently, for it has been shown² in fruit flies, for instance, that over fifty genes cooperate to produce eyes of a red color. If any of the genes are not present in the pattern, the feature does not appear. The gene pattern usually remains fixed even during the periods of cell flux and reduction division, but there are exceptions. During the reduction division, some genes may "cross over" so that the genes in some paired chromosomes exchange parts. This

means that the chromosome is no longer entirely maternal or paternal, but is a combination of both.

After much investigation there is good evidence that eye color, skin color, white forelock of hair, brachydactyly, haemophilia, blood types, color blindness, and tendencies to be tall, short, heavy, or light are, among others, inheritable traits.

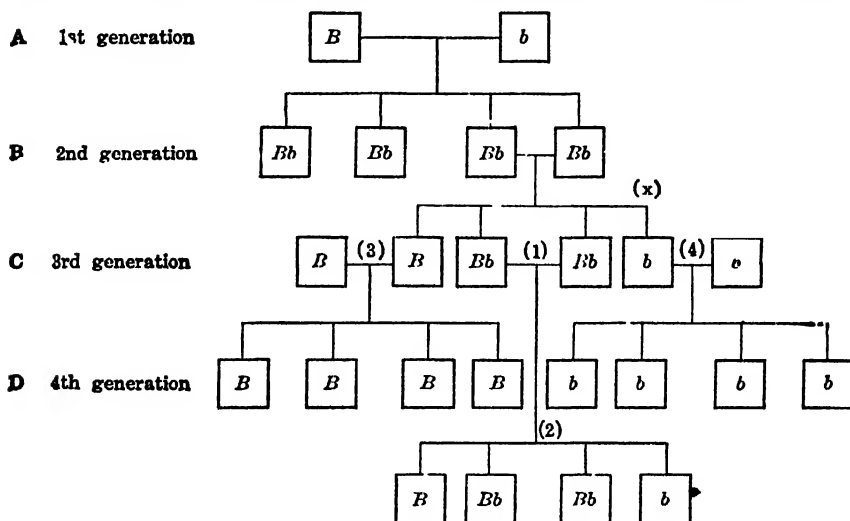


FIG. 2. Illustration of dominant and recessive traits in eye color. B in the first generation is a pure brown-eyed parent (his parents were both brown-eyed) and b is a pure blue-eyed parent (his parents both had blue eyes). In the second generation all children have brown eyes but carry a recessive blue trait. In the third generation the three to one ratio appears. There are three times as many children having brown eyes as blue, although only one of these is pure. The other two carry a blue recessive trait which if paired with another of the same characteristic (1) will again give, in the fourth generation, the three to one ratio (2). If a pure brown-eyed individual mates with another pure brown-eyed individual, all offspring will have brown eyes with no recessive trait of blueness (3). The same is true for matings of pure blue-eyed parents (4).

Some of these, besides following the foregoing general principles, have special laws of their own. Where certain traits in a class are dominant and others recessive, there is an apparent masking of the weaker traits. For example, brown-eyedness is a dominant trait and blue-eyedness is a recessive trait. If we start with pure stocks, *i.e.*, the father's ancestors all brown-

eyed and the mother's ancestors all blue-eyed, we can see how dominance operates with respect to eye color. The first generation of children will all be brown-eyed, with each carrying a hidden recessive trait of blue-eyedness which becomes manifest only if mated with someone who likewise carries the same recessive characteristic. When this occurs, the recessive trait appears in the next generation (*C* in Fig. 2) in the proportion of one recessive to three dominant traits, or, expressed in terms of dominance, the three to one ratio.

Many inheritable traits do not conform to the three to one ratio. In the case of musical talent, intelligence, skin color, and many others, there are no determiners which are dominant over others. Instead, when two different traits are united in the same line, there is a compromise, or averaging of the two traits. Children inherit musical talent, intelligence, or skin color from both parents in approximately equal proportions. The child having a white father and a Negro mother is neither all white nor all black, but a mulatto, the degree of color depending somewhat upon the proportion of skin-color factors inherited from the paternal as compared to the maternal line—matters due largely to chance.

One other peculiarity of inheritance should be noted. Some traits, notably color blindness and haemophilia, are sex linked. The trait is manifested in the male, but transmitted only by the female line. A color-blind child inherited the defect from his mother who was not color blind, but carried the trait to the third generation from her father who manifested the defect.

Significance of heredity in child psychology. From our study of heredity, we see that the child is in many ways restricted by his original endowment—he cannot be radically different from his ancestors. He can vary considerably within certain limits, but he can never be more than the potentialities locked up in the chromosomes and genes of the cell he inherits. We can trace family resemblances back much better than we can predict what they will be. Children will certainly

be like their parents, but in precisely what ways, we can never be sure. For this reason, it is desirable to pay some attention to the "family tree" of the proposed mate. "One cannot make a silk purse out of a sow's ear" expresses the idea that the offspring cannot develop traits never before present in their maternal-paternal line. Mutations, the sudden appearance of new traits in a species, may occur among plant life or even simple animal life, but are almost unknown among human beings. There is a possibility that some great geniuses are examples of mutation because of the great contrast between their barren hereditary origin and the magnitude of their talents. Arturo Toscanini, one of the greatest conductors in all musical history, has no musical relatives in either his maternal or paternal lines. His three siblings were unmusical, and two of his three children show no aptitude, in spite of the fact that his wife possesses some talent. It is easier to explain his genius as a mutation than to suppose that it was produced by the chance convergence of two hidden musical genes which never before had been manifest in either his maternal or paternal ancestry. Outside of this remote possibility, biological evolution must come from selective mating if it is to come at all.

Heredity and environment. One must not assume that all human traits, either physical or mental, are inherited. It is difficult to list a dozen different important traits which are definitely inherited. When we consider behavior or personality characteristics, we find it even more difficult to name any that can be attributed to heredity alone. When one considers the broader aspects of human behavior, one is confronted with the important fact that heredity does not operate in a vacuum, but is constantly limited and modified by the environment. Even with physical traits which seem to be definitely due to heredity, we find evidence that the environment may have played a part. For instance:

If certain strains of the eggs of *Drosophila* are hatched under conditions of excessive cold, supernumerary legs will be produced.

The occurrence of this abnormality follows Mendelian principles. If the eggs of this line of descent are hatched under normal conditions of warmth, however, the extra legs will be absent. If eggs not carrying the genes for the leg defect are hatched, the defect will not occur, even when developed in the cold. As Jennings points out,¹ both heredity and environment are necessary to produce this characteristic.²

There are instances, however, where the innate factor of maturation has more weight than the environmental factor. Gesell and Thompson³ gave special intensive training to one of identical girl twins while the other was given no training. The problem was to determine to what extent learning is dependent upon maturation. The first twin, then forty-six weeks of age, was given daily training in climbing stairs. In six weeks' time, or at the age of fifty-two weeks, she could ascend the stairs in twenty-six seconds. As a control, the untrained twin was now tested. At fifty-three weeks of age, or one week after the training period ended for the first twin, it took the second twin forty-five seconds to ascend the stairs unaided. With only two weeks of the same kind of daily training given the first, the second twin took only ten seconds to perform the feat. In other words, maturation enabled one twin to overtake, with only two weeks' training, what it took another seven weeks to learn. The same general result has been found for many other activities. McGraw⁴ has carried out the same kind of experiments with non-identical twins in the activities of grasping, sitting up, and walking, and confirms the general finding that in the basic motor abilities development is relatively independent of formal training.

The practical significance of this is that parents and teachers need to be aware of the natural processes of growth and of

the desirability of working with them. In certain fundamental functions there is an optimum time for introducing guidance and instruction. The determination of these periods, in terms of sequential unfoldment, is a problem for serious study by the specialist in child psychology, but those who are charged with the responsibility of child guidance, whether as parents or teachers, should be cognizant of the desirability of working with the important forces of maturation.

We must be sure to give proper credit to each factor. A variety of wheat seed may produce a hundred bushels to the acre if placed in fertile soil, but if placed in poor soil will produce practically nothing. Likewise, a poor variety of wheat will produce a better yield in one soil environment than in another. The way to improve any strain is to select the best hereditary lines possible, and provide resultant offspring with a favorable environment. Musical talent is without doubt inherited, but a child, no matter how good his musical ancestry, brought up away from musical influences of all kinds could not develop into an artist. Superior intellects can sometimes make their own environments, while mediocre minds can soon waste an environment and leave it poorer than they found it. On the other hand, native powers may lie dormant if not stimulated by a good environment.

At one time it was common to explain behavior by attributing the motive or mechanism back of it to "human nature." This led to an overemphasis on the importance of instincts. One psychologist listed and classified over fifteen hundred instincts, enough to assign one to almost every form of behavior imaginable. As a reaction to this extreme viewpoint, some psychologists figuratively "threw out the baby with the bath," and maintained that there were no instincts at all.¹ Watson, a pioneering behaviorist, said,

The behaviorists believe that there is nothing from within to develop. If you start with a healthy body, the right number of toes,

¹ J. B. Watson, *Psychological Care of Infant and Child*, New York, Norton, 1928, p. 38.

fingers, and eyes, and the few elementary movements that are present at birth, you do not need anything else to make a man, be that man a genius, a cultured gentleman, a rowdy, or a thug.¹

Unfortunately, such a viewpoint is too optimistic, for only those who are born with talent can, with practice, become great musicians; only those who have superior intelligence, who work, can achieve distinction in the creative world; and only those who are born with fine muscular coordination, who improve it by training, can become champions in any skilled activity.

It seems wise to avoid dogmatic, categorical, or extreme points of view about the matter. There are certain inborn tendencies, due to inheritance and maturation, which may be modified—improved or inhibited. Whatever the final status of these tendencies, the result is the product of heredity and environment. In some fundamental respects—emotional equipment, self-preservation, race preservation, egotistic tendencies,—man has not changed much in 3000 years, but this does not mean that man is without sufficient intelligence and potentialities for change. His conduct lags far behind his knowledge. It is not necessary to continue to be selfish, to wage wars, or to produce slums, but it is much easier to do so than not. Although there is no immutable force which prevents man from changing certain “human ways,” these predispositions are so firmly grounded that only with great difficulty can they be overcome.

More progress has been made in controlling and redirecting some of these “human ways” than others. It would be fairly possible to mold a particular child into an ideal adult, provided there were ideal adults to provide an ideal environment. Lacking this, the mass of people make small progress in modifying even the non-organic egoistic drive which appears to be at the bottom of so many social ills, especially war and other forms of rivalry. Here, as in all human relations, there are wide individual differences. Some, the minority, make tre-

¹ *Ibid.*, p. 41.

mendous progress, confirming our belief that advancement is possible.

We have the ability of determining which, if any, of our inherited tendencies shall be the governing forces in our lives. By the time one has grown to maturity, therefore, human nature is a complex product of heredity *times* experience.

Inheritance of acquired characteristics. There has been much discussion as to the possibility of one generation inheriting the habits, attitudes, or skills acquired during the lifetime of the previous generation. This is known as the Lamarckian theory. So far there has been very little evidence that training of any kind can influence the germ plasm. Unfortunately, the great artist cannot pass his skill on to his children, the scholar his information, the moralist his habitual attitude of moral conduct, except by social conditioning. The world could make tremendous progress if such were the case. Although it is evident that acquired characteristics are not biologically inherited in any practical degree noticeable from one generation to another, McDougall has shown that if the training for each generation is consistent and is kept up for several generations there finally appears an improvement which evidently is a result of the accumulation of the results of training that are transmitted biologically. McDougall trained rats for over thirty rat generations and found that the last generation required approximately one-half as much time as the first generation to learn a maze. If this experiment is confirmed by others, it shows the possibility, however remote, of improving the race gradually if all the ancestors consistently practice a skill or acquire a habit.

PRENATAL DEVELOPMENT

At the moment the human egg is fertilized, initiating a long growth process of cell division and specialization, a new life has begun. The egg first divides into two cells, each of these divide making four, and so on at a very rapid rate. Some are to be germ cells, carriers of the spark of life, of immortality

for generations as yet unborn, while others are to become body cells—muscle, bone, nerves, sense organs, and other parts of the body. In a period of forty weeks, only 280 days, the fertilized egg increases in volume some five million per cent. In weight it develops from one fifty-thousandth of an ounce to about eight pounds, or an increase of one billion per cent.

Periods of development. There are three recognized periods during prenatal development. During the germinal period, or the period of the ovum, which covers the

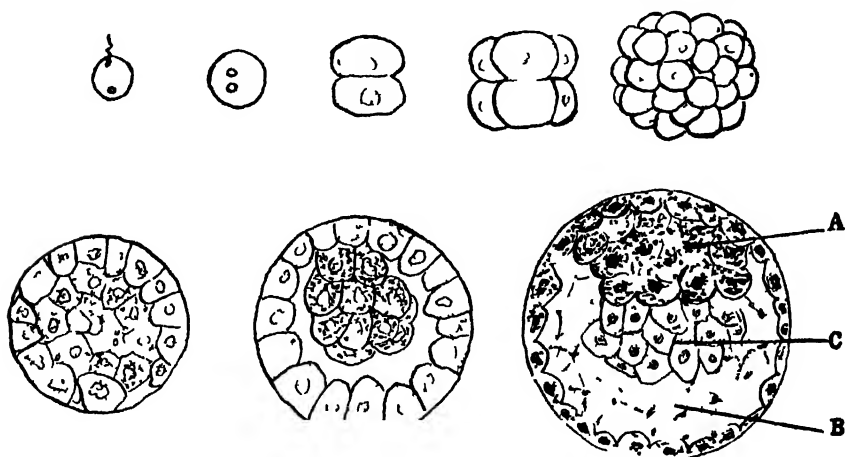


FIG. 3 Development during the germinal period. Schematic representation of cell division and differentiation during the first two weeks in mammals. A, Ectoderm germ layer giving rise to nervous system, sense organs, and skin. B, Mesoderm germ layer giving rise to muscular, circulatory, reproductive, and excretory systems. C, Endoderm germ layer giving rise to the alimentary tract. (Redrawn and adapted from Arcey.)

first two weeks, the fertilized egg receives little or no nourishment and is not attached to the mother. It is a free-floating agent undergoing little or no change in size, but important changes are taking place in the internal structure. Cell division is going on at a rapid pace. Each chromosome within each cell splits lengthwise so that every new cell contains a set of all the original genes. There is also some cell differentiation even at this early stage (see Fig. 3).

The second period is called the period of the embryo (see

Fig. 4). It begins about the end of the second week and lasts for about six weeks, or until approximately the eighth week after fertilization. This period is characterized by the attachment of the embryo to the uterus and the rapid growth and differentiation which occur. The embryo is now a parasite. There is no direct blood connection from mother to child, but nourishment is carried from the former, by a process resembling osmosis, through the walls surrounding the embryo at the point where the embryonic sac is attached to the wall of



FIG. 4. Development during the embryonic and fetal periods.
(Approximately natural size.)

the uterus. The two circulatory systems are entirely separate, as are also the two nervous systems of mother and child.

The phase beginning with the ninth or tenth week and extending until birth is known as the fetal period. During this time, which is about thirty weeks, the embryo changes, gradually acquiring more of the appearance of a human being. Actually, it is an extension of the growth and differentiation already started in the embryonic period.

Significance of prenatal development. It is during the early part of the prenatal period that the fundamental cell differentiations are made. One might ask why it is that some cells develop into muscle, others into lungs, etc., when each cell contains exactly the same growth potentialities as every other cell. The explanation lies in the fact that before long each cell has a different environment. Some are nearer the source of food supply, some are more crowded, some collect more waste products, some are nearer the surface, and there soon

come into existence complex mechanical or electrochemical conditions which cause some cells to grow more rapidly than others. This environmental influence can best be seen by transplanting cells from one part of the body to another, *i.e.*, changing their environment. A cell that normally would develop into an eye will grow to be leg skin if transplanted to the appropriate region early enough. The cells near the end that is to become the head develop most rapidly, while those that are farthest removed, especially in the lower extremities, develop at a slower rate (see Fig. 4).

As soon as there is any considerable development, however, each cell begins to specialize and cannot be greatly modified. Just how much this can be controlled by proper nourishment and other factors is difficult to determine, because the embryo is very well protected from mechanical or other injury by the effective amniotic sac, but the presumption is fairly strong that much depends upon favorable circumstances during this early period of rapid differentiation. The endocrine glands appear early, and as soon as they pour forth their hormones growth is markedly affected. Any glandular imbalance of the mother may similarly predispose the embryo through the hormones carried in the blood.

Until the necessary physiological structure has been laid down, there can be no behavior. There is a close correspondence between the time of appearance of innate behavior and the development of neural structure. As soon as the appropriate neural growth has occurred, the corresponding behavior appears. This has been demonstrated to a nice degree with kittens and salamanders. Kittens are unable to use their eyes or salamanders to swim until specific neural growth has occurred, even though the muscles are capable of response. This is a time of rapid maturation. In fact, the child recapitulates in the short period of 280 days the best share of the course of development traveled by the race in its long evolutionary climb.

Prenatal influences. There is a widespread belief that the thoughts and emotional impressions of the mother are

somehow transmitted to the unborn child. In this way birth-marks which resemble crabs, strawberries, etc., are supposedly explained. There is the famous case of an old criminal, who had the distinction of spending more time in jail than any other man in this country. His father worked in the Brighton abattoir, and his duties consisted of striking the cattle on the head with a hammer to stun them before cutting their throat with a knife—a very unpleasant vocation to contemplate! The mother, during the time she was pregnant, would go down to the stockyards to watch her husband perform his duties, and apparently got some pleasure from this pastime. After the son was several years old, he became known for his cruelty to other children. At about the age of fifteen, he became so vicious that he was considered dangerous and was sent to a reformatory after having brutally attacked another child. Finally, after being released, he again attacked another without provocation, causing mortal injuries, and as a result he was sent to jail for life. Such instances have led to the belief in prenatal markings and mental predispositions. However, there seems to be little biological foundation for such notions because there is no neural connection between mother and fetus through which the mind of one could influence the other. Only if some emotional shock were great enough to disturb the maternal equilibrium, and thus affect the developing embryo, could there be any effect, and this quite general rather than specific.

The fetus is, however, entirely dependent upon the mother for nourishment, and unless her diet is adequate for a developing organism there is likely to be some unfavorable effect. If the mother's diet is lacking in calcium, for instance, the child's teeth and bones are apt to be of poor quality. For this reason the expectant mother should be careful of her diet as well as her health in general. It is thought ¹ that malnutrition may cause mental retardation because the nervous system gets a

poor start which cannot later be rectified even though there may be no further deficiency in nutrition.

The fetus is especially vulnerable to toxins which can be carried in the blood stream and thus to some extent be relayed through the placenta and umbilical cord. The excessive use of alcohol, drugs (morphine, quinine, etc.), or even nicotine may have very harmful effects. The exact effect cannot be determined because such influences may be only one factor among other unfavorable conditions. Because they are much more likely to be harmful than helpful, they should be avoided. The germs of various infectious diseases such as syphilis, gonorrhea, diphtheria, typhoid, and influenza may penetrate the fetus before birth, or at the time of birth. Such instances make the disease appear to be hereditary, but in reality the contraction of a germ before birth is no different from its contraction at any time after birth. The prenatal child is a separate individual and bears only a parasitic relationship to the mother; the only difference between it and a postnatal child is that if the mother has a disease which can be transmitted *in utero* the child can hardly escape it because of the intimacy of their relationship. Such a disease that is not hereditary but is present at birth is called congenital.

Some mothers have been known deliberately to deprive the prenatal child of optimum conditions for development. Proper rest is not obtained, tight foundation garments are worn, sensible rules of physical or mental hygiene are ignored, and not infrequently various abortive measures are attempted. Some of these conditions are bound to be detrimental in some degree, depending upon the extent, duration, and time of the violation. Needless to say, wanted babies have more chance for normal and healthy development than unwanted prenatal parasites. Frequently the woman who is most disappointed on learning of her pregnancy becomes the most neurotic mother after the infant's arrival. Between the original desire to be free from responsibility and the sense of duty, or some quite specific mother love, there is a conflict which may cause the

ambivalence to be manifested in hysterical, overanxious, or inconsistent behavior toward the child. ,

DEVELOPMENT DURING THE FIRST YEAR

Description of the neonate. The appearance of many babies cannot be described as attractive. Except for the sympathy one may tend to have for any small helpless animal, the wrinkled skin, red blotched face, lopsided head out of proportion to the rest of the body, and general undignified appearance may have been the basis for the expression, "a face that only a mother can love." The normal baby weighs about seven pounds if a girl, seven and one-half pounds if a boy, and is about a foot and a half long. Because of evaporation of water from the tissues and the difficulty of setting the new process of independent digestion into efficient action, the newborn usually loses several ounces during the first two weeks. If everything goes well, however, he soon regains his birth weight, which within six months has doubled and within the year has trebled.

Behavior of the neonate. Although the newborn child has some five hundred muscles, he is unable to use any of them effectively. Only through practice and maturation will he be able to make some of the grosser coordinations at will. Any voluntary response of the infant at this time is not dissimilar to the mass responses noticed during prenatal stimulation. The whole body responds in a random, uncoordinated fashion. A little later the head and arms can be moved in response to direct stimulation, but only gradually are finer differentiations made. Development progresses from the general to the specific, from mass, random movements to individually directed responses. Trunk movements precede activity of the extremities, and they are well developed before the fingers or toes become individualized. Except for specific reflexes which may appear prior to any mass activity, behavior develops gradually from rough whole attempts to accurate control of specific bits of the whole behavior. Fine skills or

keen discriminations come only after the more fundamental muscular adjustments or the basic mental relationships have been formed.

The neonate's repertoire of behavior is remarkable considering the fact that there has been no opportunity for practice or learning.

Helpless as the new-born baby seems, he is nevertheless able to perform a rather large number of complicated acts. He breathes, suckles, sneezes, coughs, and moves his whole body. He starts at a sudden noise, cries if he is hurt, turns his head freely from side to side when lying on his back, and if placed face downward on a bed or table he promptly turns his head so as to free his nose for breathing, or he may even lift his head clear of the table for an instant.¹

Sensory functions. The child is endowed with the elementary sensory functions at or soon after birth. He is able to focus his eyes on a moving object by the third week. Even earlier he may be able to fix the eyes on a bright object or make partially successful pursuit movements. Some response to light is usually characteristic during the first two weeks, the most common being an attempt to turn the face toward the direction of the source of light. Intense light suddenly flashed in the eyes causes a startle reaction and a closing of the eyelids. The eyes are not always coordinated at birth. One may move more or less independently of the other, but by the eighth day this weakness has been overcome in practically all cases. One curious fact about the eye itself is that, no matter what the color later in life will be, it is nearly always blue at birth.

Hearing seems to be far less developed than vision during the first month of life. Some children have been known to jump or cry at a sudden loud noise on the day of birth, but it is not a common response this early. Not until two weeks, or later, is there any universal or consistent reaction to sound with the average infant, and even then a great deal seems to

depend upon the intensity of the stimulus. It is entirely possible that the infant hears but does not react unless the sound is intense enough to be annoying. During the first few days the middle ear is sometimes filled with amniotic fluid, which may cause partial deafness until it is drained off.

Taste is not well differentiated until the child is several months old. Bitter, salty, or sweet substances are all that evoke any very definite responses to taste. It is fortunate perhaps that taste is not keener because it is quite common to give children codliver oil or to put them on a formula of evaporated milk—tastes that they frequently reject later on.

Other sensations—smell, touch, cold, warmth—are more difficult to investigate because of the indefiniteness of the response and the possibility that any response that is made may be caused by some other than the stimulus presented. Pain, however, is fairly well developed from the beginning, although sensitivity seems to be increased during the first weeks.

Reflex behavior. In children's hospitals it is common to see a small rubber hammer in the pocket of the intern. This is used to test the knee reflex, elicited by striking a point just below the knee, the usual response being an involuntary kicking. This and all other reflexes are important mainly as a measure of normal neural development. If the normal repertoire of reflexes is lacking, it indicates some serious involvement of the central nervous system. When a child has been seriously injured from a brain concussion, or has been seriously ill, the physician usually checks all the reflexes to determine whether or not the fundamental neural mechanism underlying behavior has been damaged. The plantar, or Babinski, reflex is a characteristic extension of the big toe, with frequently a fan-shaped extension of the other toes, when the inside sole of the foot is tickled or otherwise stimulated. This is a normal reflex in children, but in adults it indicates a lesion in the nervous system. The cheek reflex, turning the head toward a tap on the cheek, appears during the first day. The automatic closing of the pupil of the eye when stimulated by a

light is called the pupillary reflex. This seems not to be well developed until several hours after birth. Its importance as a protection of the sensitive retina against strong light is obvious.

The grasping reflex is sometimes present at birth. If a rod is placed in the palm of the hand, the fingers close tightly and, in some cases, the newborn is able to hold his own weight for a minute, or even longer. Some have speculated on the origin of this behavior, particularly because it has no utility at the present time. It could be a behavioral hangover from our arboreal ancestors. Monkeys have this reflex extremely well developed, being able to support themselves by one hand for thirty or more minutes at birth.¹ The self-preservation value of this ability for the monkey born in treetops is not difficult to understand. In humans, this reflex disappears at about four months, giving place to voluntary clasping which, however, is not so strong as the more primitive response it displaced.

Other reflexes which appear almost universally at or soon after birth are crying, yawning, sneezing, hiccoughing, smiling, and sucking. If instincts are to be accepted as a part of man's innate equipment, sucking would qualify as one of the best examples. It appears at birth (good evidence that it is unlearned), it is universal, and it protects the whole organism (from starving) as compared to other simple reflexes which protect only some specific organ of the body. It also is the basis for the earliest perversion found in man, thumb sucking.

Emotional behavior. The infant is capable of emotional responses of a diffuse nature. When the child is angry, he is angry all over. Or when he is happy or afraid, he responds with his whole body. To the child under one year of age, especially, emotions are mechanisms which allow him to indicate his prevailing mood. If he is happy, he likes the stimulus and is willing to accept more of it. If he is angry, he dislikes it and attempts to remove the stimulus by incipient

fighting activity. Fear also is a manifestation of disapproval of the stimulating situation, and when the infant lacks courage or confidence, owing perhaps to failure to solve a similar problem in the past, the response is an attempt to remove himself from the source of the stimulus. These three emotions—love or happiness, anger or rage, and fear—are all that Watson¹ could discover in the infant and are probably fundamental.

Some² have criticized the innate or instinctive nature of these three emotional responses, maintaining that there are no constant stimuli which evoke them, and that there is much variability among infants. This is true to some extent; there is no all-or-none mechanism that is universally employed by infants in various situations, but if one does not attempt to connect a specific stimulus with each emotion, there is little doubt that these three do appear without benefit of learning. Children are either happy or sad, *i.e.*, either affectionate, or angry, or afraid, depending partly on their physiological state at the moment, and they show these moods in their behavior before having an opportunity to learn the appropriate responses. Goodenough³ reports the case of a ten-year-old girl totally blind and deaf from birth that illustrates the spontaneous nature of anger and joy. The girl was impossible to teach. She knew no form of language and could not be taught to care for herself. Nevertheless, frustration caused anger, and success resulted in a very definite expression of joy.

Since the mechanisms of emotional expression are biologically provided, it seems that the best control over the child's emotional behavior lies in the control of the stimuli that arouse it. The child will not be afraid or angered unless stimulated by something unpleasant. He will be good natured,

optimistic, and emotionally well balanced if properly handled from infancy.

As he grows older, the child learns to connect more and more stimuli with these emotional responses, and by the time he is a few years old he has materially extended the range of stimuli that will evoke his emotions. Conditioning will also modify the overt response, but the characteristic moods of pleasure and unpleasure always remain. According to Cannon,¹ fear and anger are mechanisms provided by nature to help the individual save himself from destruction. Either response is likely to be effective, in the long run, in removing the individual from the obnoxious or dangerous stimulus; in the case of fear the individual removes himself, or attempts to, and in the case of anger, or rage, he attempts to remove the stimulus by thrashing about in a random manner, which, later on, when the activity is directly aimed at the stimulus, we call fighting.

GUIDANCE PRINCIPLES

Prenatal period. Anything that affects the health of the mother also affects the fetus. If the mother's diet is deficient in calcium, the child will have poor teeth and bone structure. Fatigue products and toxins are carried in the blood stream. Alcohol, morphine, and other drug toxins may be passed along through the special blood vessels in the wall which encircles the fetus. Even smoking causes an increase in the fetal heart beat.² The expectant mother should get a normal amount of exercise, rest, fresh air, and plenty of milk and vegetables.³ Strong emotions or emotional shocks are probably detrimental to the prenatal child because of the stimulat-

ing and upsetting effects on the nervous system of adrenin, which not infrequently seriously inhibits digestion. This is about the only thing that could cause a child to be born with a "nervous" constitution, so a little care should increase the chances that the start is favorable for a stable and balanced neural equipment.

The first year. For the newborn the problem of guidance is not very urgent. He sleeps twenty out of twenty-four hours. As he grows older and has more waking hours, clothing or blankets should not interfere with free activity on threat of stimulating anger and starting the practice of this undesirable response. Constant stimulation—tickling, kissing, rocking, showing off to visitors, dressing—should be avoided. The baby is not a toy or plaything. He needs a favorable environment for growth, but not constant emotional stimulation. Loud sounds, sudden unexpected changes, pain-producing stimuli, or clumsy handling causing fear of falling are high on the list of undesirables. On the other hand, there should be bright and interesting toys to observe or manipulate when any interest is shown in them. Perhaps it could be said that the child needs intellectual but not emotional stimulation. A favorable environment should stimulate observation, the development of sensory-motor coordination, and a healthy extroverted interest in the environment in general. Since the world puts a premium on extroversion, it may be well to encourage this trait while personality patterns are being formed.

Most babies are placed on a definite feeding schedule by the pediatrician. Routine activities should be established from the beginning. In this way the child is conditioned to do what is desirable at the appointed time without question. This principle of consistency in treatment is fundamental for all later habit formation, and the twig may as well be bent in the proper direction from the beginning. Feeding and sleeping are the main occupations of the child for the first year, and are easy to routinize. Some have attempted to teach control of elimination during this period by associating conditional

stimuli with the unconditioned act, but this attempt is not generally successful until a little later. Attempts to condition the child prior to the time he is mature enough to profit by the training are probably undesirable. They so discourage the parent that he abandons them even at the level of maturation where success would be likely. They also frustrate the child and tend to make him irritable. Pavlov¹ found that attempts to train the dog to make finer discriminations than he was capable of caused neurotic behavior. He would snap and growl even at his keeper, toward whom he had always been friendly.

Thumb sucking is one of the most common of the "bad" habits that develop during the first year. It is not infrequently caused by difficulties with the diet, which leave the child hungry. Hence, it seems to be related to contentment and comfort.² Substitute satisfaction is obtained by going through the sucking movements associated with feeding, thus making the feeling of hunger less acute. The habit may become established quickly, and it may persist even after a satisfactory feeding formula has been found. If the child is a persistent thumb sucker while his jawbones are relatively soft, there is some slight danger that the practice may result in protruding teeth.

In many instances thumb sucking disappears around the first year from lack of motivation—the diet is adequate, substitute satisfactions in the form of interesting things to do take the place of the old habit, or the idea has not been reinforced by constant parental nagging. However, the habit brings pleasure to the infant, and consequently it sometimes becomes involuntary, persisting even when motivation seems to be lacking. For this reason it is always safer to prevent the practice from developing in the beginning.

In dealing with thumb sucking, one should first of all make

sure that the diet is adequate because, if the response has a stimulus to feed on, it will be difficult to eradicate the habit. Inhibitory measures, such as putting mittens or thumbguards on the infant, or placing bitter substances on his thumb, do practically no good after the habit is established, but are effective in preventing it.

INDIVIDUAL DIFFERENCES

There are marked differences in all forms of behavior from birth onward. They extend all the way from the appearance of specific reflex behavior to gross differences in intelligence and personality. Some are caused by heredity, some by environment, and others by sickness or the results of accidents. As children do not mature at the same rate, they do not reach the same levels of behavior simultaneously. Any developmental norm must be used with caution since it does not fit any particular child and all children are not expected to be alike. Some are born to be short and slender, while others will be overweight in spite of strict dieting. Every individual has a norm of his own which is determined by his heredity and environmental conditioning. Statistical norms are valuable for comparative purposes, but every child is not abnormal who does not fit them. This variability is one characteristic of complex organisms as compared to simple. The variations and special abilities which are good need to be conserved and developed rather than smoothed out. Almost every child has some superior trait which can form the basis for developing a feeling of superiority within him. That differences are the rule rather than symptoms of abnormality is shown by Curti:

Studies that have been made, including biographies of normal babies, show that among entirely normal children some may sit up alone as early as 15 weeks, others, just as vigorous and healthy and living in just as stimulating an environment, do not sit up until 30 or 40 weeks. Some babies take the first few steps alone at 45 weeks, others not until 60 or 70 weeks, still others not until 18 months or even more. Some babies reach and grasp objects at 14 weeks, others not until 25 weeks.

That such differences are determined largely by heredity is suggested by the experience of doting fathers and mothers who, trying to teach their offspring these things, find all their efforts vain until, after months of effort, the baby in the course of a few days begins to "take an interest" in the activity in question, and, once motivated, makes steady progress.¹

Parents should recognize that retarded development in one aspect of growth does not necessarily mean that the child is backward in all respects. Particularly is this true with regard to the relationship between physical and mental development. There has been a presumption that either retarded or accelerated motor development during the early years was an indication of a corresponding mental backwardness or advancement. Predicting subsequent mental development from early physical growth is unreliable because there is no close correlation between early motor and physical test scores and the scores later derived from more reliable tests of intelligence, such as the Stanford-Binet scale.

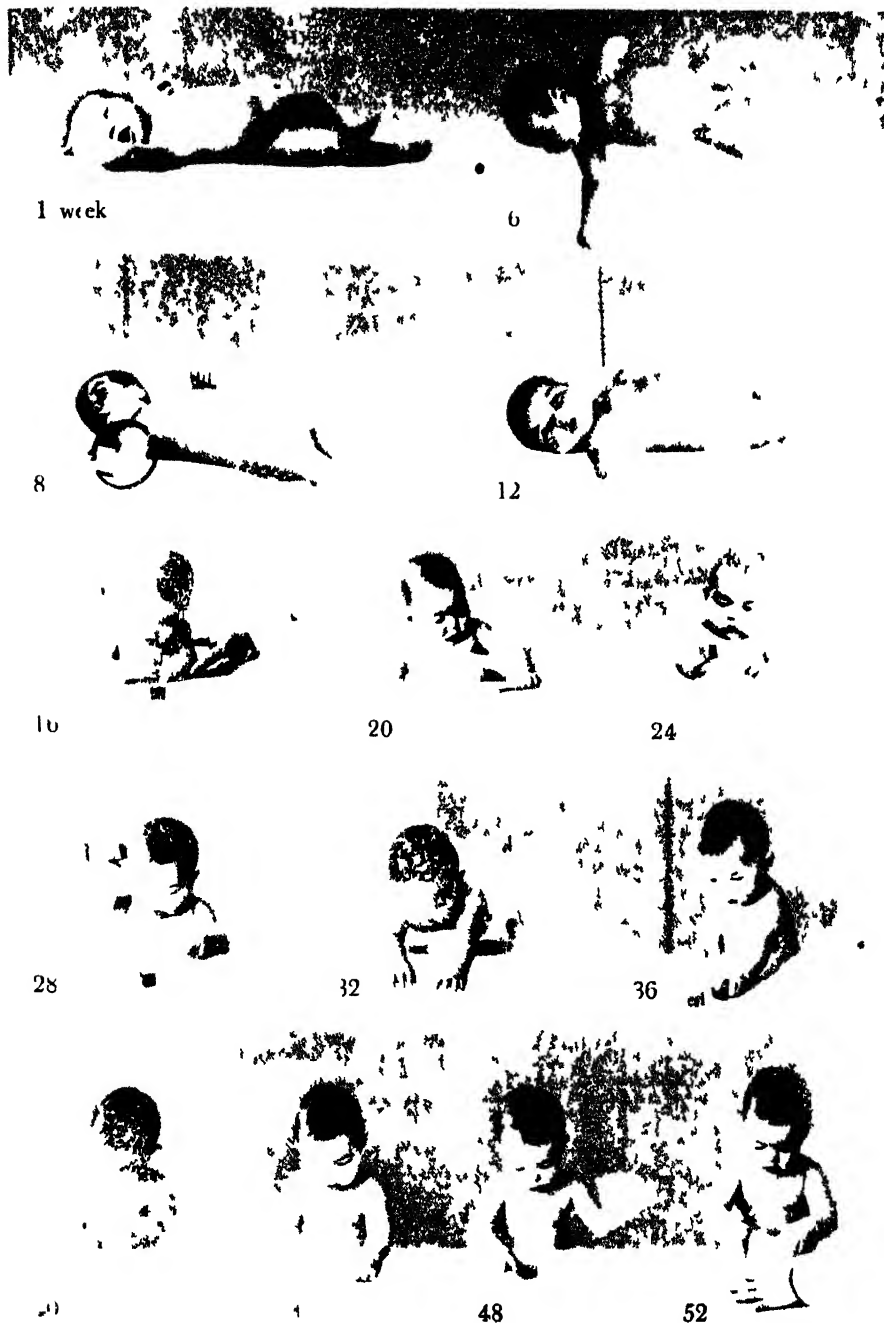
The question is frequently asked, "If intelligence, or some other trait, is inherited, how do you account for the fact that some siblings have far more of it than others?" The answer is simply that individual differences are inherited as well as likenesses. In the long run, siblings will tend to resemble one another in all inheritable traits, but specific cases may vary considerably. It is possible that one sibling may inherit a trait that may not be transmitted to another sibling at all. Some inherit blue eyes from their parents while others in the same family may have brown eyes, yet both inherit their eye color.

¹ Margaret W. Curti, *Child Psychology*, rev. ed., New York, Longmans, 1938, p. 99.

TABLE I. DEVELOPMENTAL NORMS FOR THE FIRST YEAR

(From Gesell, Goodenough, Blanton, Shirlev, and Strang)

	<i>Motor development</i>	<i>Language</i>	<i>Adaptive behavior</i>	<i>Personal-social behavior</i>	<i>Reflexes</i>
At birth	Can move hands and legs in freedom fashion, spreads and closes hands, turns head when lying face down				Plantar (Babinski) Moro knee, pupillary wink, sneezing, hic-coughing, yawning, grasping
1 month	Can hold chin up, make crawling motions	Heeds sound, cries differentially for pain hunger discomfort	Stares at massive or moving objects, holds on to objects placed in hand	Selects face as object of regard	
2 months	Can hold chest up, or head erect for a moment, reaches	Listens to speaking voice, makes all vowel sounds	Prolonged regard eyes follow moving person	Is quieted by touching, turns head to hear speaking voice makes pushing movements with legs when upheld	
3 months	Reaches for objects but misses, can hold head erect short time if held to shoulder, can move from side to side	Vocalizes moods of pleasure.	Eyes follow small object, turns head freely to look for source of sound	Quieted by voice or music cries when adult leaves him shows anticipation	Moro reflex disappears
4 months	Holds head steady, sits up with aid, carries object to mouth	Responds vocally when socially stimulated makes all consonant sounds	Looks about in new situation, regards cube on table closes in with both hands on dangling ring, turns head to follow a vanishing object, looks for lost toy	Plays with rattle, inspects own hand, splashes in bath water, makes adjustments in anticipation of being fed	Grasping reflex disappears, replaced by voluntary clasping



The growth of the motor child is noted in successive age levels (from Arnold, 1911, *The Motor Child*)

TABLE I DEVELOPMENTAL NORMS FOR THE FIRST YEAR

—continued

	<i>Motor development</i>	<i>Language</i>	<i>Adaptive behavior</i>	<i>Personal-social behavior</i>	<i>Reflexes</i>
<i>5 months</i>	Grasps voluntarily, turns over, can pick up a cube from table, holds bottle	Vocalizes pleasure and displeasure	Eyes cooperate in prehension and manipulation, plays actively with rattle	Is quietly but caress disturbed by sight of people, smiles at another child	
<i>6 months</i>	Can grasp dangling object, sits without support for few moments, holds two cubes one in each hand, plays with toes	Speaks several well-defined syllables, expresses recognition of familiar things, vocalizes pleasure, imitates sounds	Expectation in response to the repetition of a stimulus, recognizes own name, shows fear, disgust, distress, excitement, delight	Distinguishes between friendly and angry talking, holds up arms to be taken up, recognizes familiar people	
<i>7 months</i>	Can sit alone, turns wrist, can pick up pellet with finger, reaches persistently for remote cube, stands briefly with help	Vocalizes satisfaction in attaining an object	Sustained interest in play	Reacts to image in mirror by manipulation or approach	
<i>8 months</i>	Stands with help, can run a few steps, sitting position	Vocalizes in interjectional manner	Definitely look for fallen spoon, uses handle in hitting cup, shows interest in details of a ball, deliberate choice of a toy, reaches for toy outside of crib	Pats or smiles at own image in mirror, shows interest in frolics of others	

TABLE I. DEVELOPMENTAL NORMS FOR THE FIRST YEAR

—continued

	<i>Motor development</i>	<i>Language</i>	<i>Adaptative behavior</i>	<i>Personal-social behavior</i>	<i>Reflexes</i>
<i>9 months</i>	Starts to creep; opposes thumb to forefinger in picking up objects.	Says da-da or equivalent; listens with selective interest to familiar words.	Uses string to pull ring; gives attention to scribbling demonstration; shows curiosity for hidden objects; rubs self with soap and towel; points with index finger.	Cries if other child receives attention.	Babinski reflex disappears.
<i>10 months</i>	Creeping is well developed; pulls self up to standing position; picks up pellet with precise pincer movement.	Imitates sounds; makes adjustments to some words.	Explores form board holes; imitates ringing of a bell.	Imitates movement of another child; opposes toys being taken away.	
<i>11 months</i>	Walks when led; lowers self from standing to sitting position, holds crayon to make stroke.	Says two "words"; adjusts to simple verbal suggestions; imitates sounds or words.	Imitates scribble; uses string to pull object; secures cube wrapped in paper; holds cup to drink from.	Strives for attention of another child, repeats performance when laughed at.	
<i>12 months</i>	Pulls self up to stand alone; walks with help.	Uses four words.	Builds tower with two blocks; taps a bell; removes paper cup from head; uses spoon	Cooperates in dressing.	

QUESTIONS AND EXERCISES

1. To what extent is a child a product of his heredity? Consider physical characteristics and behavioral patterns.
2. Does the important role played by chance invalidate all the principles of heredity as far as practical prediction is concerned? Discuss.
3. How are some family traits lost entirely in the hereditary process?
4. Why is it that frequently a man of great ability apparently does not pass his talents along to his children?
5. What responsibility does each individual have in keeping his own life stream from deteriorating? Does he have any chance of passing it on in a better condition than it came to him? How?
6. What appear to be the purposes of genes?
7. Make a list of physical traits which conform to hereditary laws. (See the reference to Amram Scheinfeld's work in the bibliography.)
8. Draw a diagram showing the laws of inheritance where the traits do not possess the dominance-recessive dichotomy.
9. Why will the three to one ratio seldom be found in human inheritance?
10. Would you hesitate to marry someone whom you knew to have an undesirable trait that could be transmitted?
11. To what extent can predictions be made on the basis of the known facts of heredity?
12. What environmental influences could there be that would affect the development or patterning of the genes? Would you go so far as to say that "whatever heredity can do, environment can likewise do"? Why?
13. Show the relationship between heredity and environment. To what extent is the question of which is more important, meaningless?
14. To what extent is "human nature" inborn? How much is it modified by the environment? Could it be changed by selective mating? Discuss.
15. When do the most important differentiations take place in the developing egg?
16. Will a skill or attitude which is practiced by the mother during pregnancy be transmitted to her child?
17. How can the emotional development of the child be controlled?
18. What is the value of consistency in early training?

Chapter 3

Physical Growth in Children

IMPORTANCE OF PHYSICAL GROWTH

One of the most interesting studies in biology is that of the development of the human being from a microscopic cell to a purposeful adult. So extensive is this study that it constitutes a field of knowledge upon which volumes have been written. Basic to an adequate knowledge of child psychology is an understanding of the principles of physical development. Heredity determines the major course of physical growth, while environment modifies its details. The fact of growth is so obvious that we seldom reflect upon its significance and seldom observe that about one-third of the normal life span is taken up by the process of physical development. Within the last two decades, scientific investigations have brought to light important facts and principles about physical growth. Without an appreciation of these discoveries, parents and teachers cannot adequately plan a guidance program for children. The purpose of this chapter is, therefore, not to bewilder the student by a recital of highly technical details, but to emphasize the importance of physical growth in the mental life and personality development of the child.

EARLY PHYSICAL DEVELOPMENT

To speak of "stages" or levels of physical development is most unsatisfactory and misleading, for it suggests that the growth processes are marked off by definite boundaries. The basic fact is that physical development is a continuous process

This chapter was written by John W. Charles.

from conception to maturity. For convenience, however, it is customary to speak of various phases in the life history of the human being but to add at once that the practice is followed only for its practical usefulness. We must constantly bear in mind the fact that from conception to death there are continual alterations taking place within the body and that no single period is sharply distinguishable from the preceding or the following level.

Until recently, few people conjectured that much of psychological importance could be learned from a study of the prenatal phase of human development. Now it is generally recognized that for an adequate comprehension of physical development we must start with a careful study of prenatal growth.¹

Studies of the behavior of the human fetus are necessarily limited in number. One investigator² has reported upon his observations of a few cases removed by Caesarian operations and kept alive for brief periods. In the younger fetuses he noted that the responses to stimulation were more varied than in the older ones and that there were few isolated reflexes in any of the cases. Apparently his researches lend some support to the theory that original behavior is a mass activity of the whole body and that specific responses by definite muscle groups appear later in the developmental process. This discovery, if true, has an important bearing upon our understanding of child development. Older writers believed that original nature was a sort of bundle of specific reactions which became joined together in the process of development and learning. Some investigators, particularly Coghill,³ have supported the conflicting view that physical development pro-

ceeds from a sort of massive, chaotic behavior to a precise, differentiated reaction.

An important fact to note about the prenatal period is that birth is not the beginning of the developmental process. Consequently, a study of the behavior of the infant at birth does not give us a true picture of original nature. When we reflect that the prenatal organism grows from a single cell to be about seven pounds in weight, we may conclude that relatively the greatest amount of physical development takes place during the prenatal period. A graph of human growth would take the form of a curve of negative acceleration, with the most rapid development indicated in this prenatal period.

The technical name for the newborn infant is *neonate*, a term loosely applied to the first week to three weeks of post-natal life. Extensive investigations have been made on the neonate, the most notable of which are probably the studies of Weiss and others.¹ Most recent studies confirm the hypothesis that the behavior of the neonate is of the nature of mass activity and that there are few specific response patterns. The newborn infant is in constant activity, stimulated by internal, organic conditions. Some differentiated reactions to external stimuli are noticeable in these early days. Sneezing, hiccoughing, sucking, and crying are a few examples of specific responses of the neonate.

Infancy is usually applied to the period from the neonate level to the time when the first meaningful words are used. The word literally means "unable to speak" (Latin, *in*, not; *fari*, to speak). In this period the infant learns to stand erect, the movements become differentiated and coordinated, and amazing physical development occurs. A few simple facts serve to emphasize the tremendous amount of physical growth during the period. At one month of age the average infant can lift his face from the crib when laid down, at four months he

can sit on his mother's lap with back support, at seven months he is able to sit alone, at ten months he begins to creep on the floor, and at fifteen months he walks without assistance. The interesting fact is that physical development of young children follows a rather definite time schedule and that older patterns of response are given up as the child enters upon each new level of development.

SOME ASPECTS OF THE DEVELOPMENTAL HISTORY OF AN INDIVIDUAL

Some of the principal points in the foregoing discussion will be made clearer if we examine parts of the developmental history of a single individual observed by the writer. Since our present purpose is to gain an appreciation of the general course of physical growth, minor details have been omitted here. The record of this child is graphically presented in Fig. 5, p. 57. During the period covered by this graph, the greatest development took place in weight and the smallest in neck girth. It is of interest to observe that the child's height and the distance between finger tips remained fairly constant throughout the period. Another interesting fact is that at birth the child's head was larger than its chest, but that the chest enlarged rapidly in the ensuing years, whereas the head did not greatly increase in size. The effects of whooping cough, a tonsillectomy, and measles upon physical development are clearly evident. The two stars on the graph indicate points at which predictions for ultimate weight and height were tentatively made, and the graph indicates that these prophecies were borne out in the child's developmental history.

Not only does the child grow in height and weight, but also he develops different proportions in various parts of the body. Perhaps the reader has never tried to imagine what the adult would look like if he retained the physical proportions of infancy. Certainly, he would be a grotesque figure. In babyhood head and trunk are long relative to the legs. Roughly about a quarter of the total length of the infant is taken up by

the hear'. If, therefore, we could imagine a six-foot adult with a head twice normal size, we could understand how greatly bodily proportions are altered in physical development. We should also have to picture this monster with legs barely half

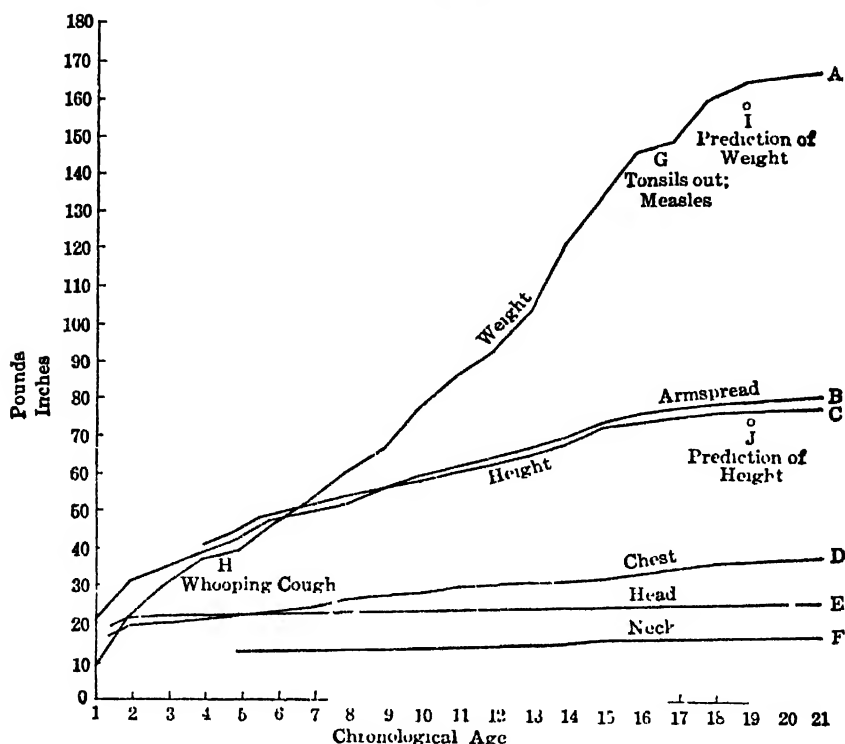


FIG. 5. Graph showing growth in certain physical traits in a boy. Weight is expressed in pounds; all other measurements are in inches.

the normal length. For another instance, the baby has a prominent forehead and a small chin, whereas the adult usually has a large chin and a less noticeable forehead.

Further examination of this graph will bring out another important characteristic of physical development. In the first year of life the child increases about fifty per cent in height, but by the fifth or sixth year he is usually only twice as long as he was at birth. By the twelfth or fourteenth year he is about three times as tall as he was at birth. Thus, we see clearly how physical development proceeds in negative

acceleration, with the greatest amount of relative increase taking place in the earliest periods.

SOURCES OF DATA ON PHYSICAL GROWTH

Insight into the nature and significance of the physical development of children comes from personal observations of children and studies made by research workers in the field. The two chief sources of data are: (1) single sets of measurements of many individuals of a given chronological age, school grade, race, or sex; and (2) records of repeated observations and measurements of the same individual over a period of time. Data of the first kind may be of particular value to the school administrator for comparative and administrative purposes. Data of the second kind are the more valuable to parents and teachers for purposes of the intelligent guidance of the child.

Norms. Interpretations of mass data are made in terms of averages, deviations, percentiles, and other statistical concepts. Averages or medians obtained from measurements of a given trait on a large sample for a given school grade or chronological age are spoken of as *norms*. Thus norms provide a "standard" by which the development of an individual child may be compared with the "average" child for the nation, city, county, or class. Extreme deviations from the norm may indicate abnormality for which some specific treatment or guidance is indicated.

We have norms for many physical traits and characteristics such as height, weight, age, head circumference, chest circumference, chest width, hip width, shoulder width, sitting height, breathing capacity, arm length, abdominal circumference, body diameters, ankle circumference, strength of grip, arm span, puberty. Then there are norms for the Babinski, grasping, iris, and wink reflexes and for visual, auditory, smell, taste, and pain acuity.

Growth norms. Many records of the growth of children furnish the data for obtaining averages at the various

levels of development. For example, Baldwin and Wood have furnished us with excellent age-weight-height tables¹ for boys and girls. Such tables as these are often used in a fallacious, uncritical way. Occasionally parents and teachers are of the opinion that if a child is not exactly at the point of average for his age he is abnormal. As a matter of fact, these tables give the figure of central tendency for chronological ages. In individual cases there are many exceptions. Owing to a better knowledge of child hygiene, the age-weight-height tables for the present generation differ from those appropriate for older generations. One study, for example, reports that a group of college students are more than an inch taller and several pounds heavier than their parents were at the same age.² Furthermore, properly to interpret norms one must take account of the child's socio-economic status, racial background, and family record.

In child guidance we must constantly bear in mind the fact that *average* has a technical connotation. The average child is the one most common in his age group. If we measure a group of children for height, the average child is simply the one whose stature is most nearly representative of that of the group as a whole. In other words, there is nothing *desirable* about being of average height. In fact, there might be a real advantage in being an inch or two above the average. The confusion about developmental tables arises principally because "average" and "normal" are used interchangeably and because "normal" connotes for many people a desirable or wholesome condition. They speak of the "normal child" as the ideal, the *summum bonum* of child development. This error may easily be avoided if we remember that the average or "normal" first grade child has one or more decayed teeth

in need of immediate dental attention. Of course, no one would consider it undesirable if a youngster were "abnormal" in this particular.¹ In the same way, these developmental tables should be regarded as useful standards of reference but not as indicators of points to which each individual child must be brought. Total freedom from disease and physical imperfections would, for example, be both "abnormal" and desirable.

SOME GROWTH RECORDS

The point will be clearer if we examine the records of several boys and girls. In Figs. 6 and 7, there is a graphic portrayal of height-weight changes over a ten-year period. The lines indicate that most of the development took place in uninterrupted fashion. Some lines, however, indicate unevenness in growth. If thousands of similar records were kept, the individual differences would tend to be concealed by the trends of the group as a whole. For these particular groups it is of interest to note that differences in weight were much greater than those in height. Possibly if the sampling had been extended by the addition of a few more cases, the disparity among weights might have been less intrusive. In understanding any single child parents and teachers should never interpret averages too strictly. Each child is a distinct individual with his own particular growth pattern.

One of the most important studies of growth that has ever been made on a single child was undertaken by the Kelloggs.² Since their work seems to be on the way to becoming a psychological "classic," it is worth while to review the contribution. When their own child Donald was ten months of age, they took into their home a young chimpanzee of seven and a half months of age. For nine months they observed the physical, mental, and social development of the child as contrasted with that of the chimpanzee. They noted that the

chimpanzee matured much more rapidly than did their son. For instance, during the nine-month period the boy gained nineteen per cent in weight, whereas the chimpanzee gained eighty-nine per cent. In height, their son increased ten per cent, and Gua, the chimpanzee, grew seventeen per cent. Likewise, in the other indices of physical development Gua showed a great superiority to Donald. Naturally, the more rapid growth of Gua brought her to a great temporary advantage over Donald in general behavior.

Gua's physical development was so rapid that she was able to eat with a spoon four and a half months before Donald could. Although no effort was made to teach Gua unusual tricks and stunts, she acquired many amazing types of special behavior from living in the Kellogg household. She could open doors, indicate her need to go to the toilet, and solve little problems long before Donald had matured sufficiently to do as well as she. Later on, however, Gua seemed to reach the limits of her development, and Donald gave many evidences of the fact that he would shortly surpass her in every particular. Of course, the chimpanzee reached a point in physical development beyond which she did not advance; hence her mental growth also ceased at a relatively early age.

McGraw¹ has reported upon an unusual type of experiment in which she trained one member of a pair of twins during the first two years of his life and gave no training to the other. The trained twin was taught to creep up inclines, to jump from heights of several feet into the nurse's arms, to use roller skates at the time when he commenced to walk, and in general to acquire a degree of muscular coordination precocious for his age. After the lapse of about two years the twins were both given training in new types of motor activities, and there was no indication that the trained twin had any advantage over his brother because of the earlier coaching which he

had received. The study indicates that physical development cannot really be forced and that activities should be introduced at times appropriate to the level of physical development which the child has achieved. Gesell ¹ and his students had come to the same conclusion in an experiment on twins undertaken a few years before.

Jersild ² tackled the problem with children from two to eleven years old. One group he trained in naming colors, word association, feats involving muscular strength, lung expansion, speed of tapping, and singing. The children who were trained in these activities made gains in all the tests. When both groups were tested after the lapse of several months, however, the untrained group did about as well as those who had been given practice in these exercises. The one single ability in which the trained group surpassed the untrained group was singing. Of course, ability to sing is more a matter of learning than of mere physical development alone.

SOME SPECIFIC DEVELOPMENTS

Maturation is the term used to describe the general process of physical development. It refers to the process whereby the state of full development is attained. A few examples of maturation will make this concept easy to understand. Between infancy and maturity the height of the head doubles; the length of the body trebles; the length of the arms and the weight of the brain quadruple; the length of the legs quintuples; and the weight of the heart increases thirteenfold. At six years of age the average child has two permanent teeth; at age eight, ten; and at age ten, fourteen or fifteen. As a rule, girls are more advanced in development than boys of the same chronological age. Still another instance of maturation is the ossification of cartilaginous tissues in the wrists. The percentage of such tissue that has changed to bone is

sometimes taken as an index of the *anatomical age*, though other criteria, such as those mentioned above, may also be used. Anatomical age is defined as the rating of the child's bone development, often as determined by X-ray, in terms of norms based upon unselected children of successive chronological ages.

A child's chronological age alone does not always give a sound basis upon which to plan a guidance program. At the same chronological age children differ greatly in anatomical development. They may differ also in physiological age. This term is used to refer to the functioning of various bodily organs, such as the glands.

Glands and development. These are the glands of internal secretion about which many interesting and important facts have been discovered in recent years. A brief account of some important endocrine glands is appropriate here.

The *pituitary* gland, the motor of the endocrine system, lies in a bony recess at the base of the brain and is about the size of a hazel nut. Apparently it has a number of important functions and secretes a number of hormones (chemical substances formed by the endocrine glands and secreted into the blood stream, where they affect other organs somewhat as drugs would). The anterior lobe of the pituitary is known to affect stature and sex development. Overactivity produces the giant, and underactivity the midget. "Angel," a well-known wrestler, is said to be the result of excessive activity of the anterior lobe of the pituitary in childhood. The posterior lobe of this gland is known to affect metabolism. The enormously fat child who does not mature sexually and who is lazy may suffer from underactivity of this part of the pituitary gland.

The *thyroids* are two maroon-colored organs that lie on either side of the windpipe, close to the larynx. From the thyroids comes a substance that regulates metabolism. If the infant is unusually slow in walking, talking, and sitting alone, the thyroids may be functioning too little. At length the whole

body may be affected; a dwarfed, potbellied, phlegmatic individual may develop. In extreme form, this condition is known as *cretinism*. If the symptoms are recognized in infancy or early childhood, medical treatment may be efficacious in such cases. If the thyroids secrete too actively, the child may become "nervous," highly excitable, irritable, and thin.

The *parathyroids* are four small glands which are attached to the thyroids but which have a separate function. They regulate calcium metabolism and thus affect development and behavior. If they do not secrete an adequate amount of their hormone, the child may be nervous, tense, sensitive to real or fancied slights, and disobedient. Should the parathyroids be very defective, a continuous state of excessive muscular tension may ensue. When they secrete too much, the child may exhibit a great lassitude, want of enthusiasm, and muscular relaxation.

The *adrenal* glands, small bodies near the upper tip of the kidneys, have a complex influence upon development and behavior. Excessive activity of the *cortex of the adrenals* may cause precocious maturation of the whole body, particularly of the reproductive organs. Occasionally we read in the newspapers of a boy six or seven years of age who has a heavy voice, a beard, and a fully matured sexual development. The cause may be overactivity of this part of the adrenals. In the case of the girl, overactivity of this sort produces grotesque results. She develops a masculine figure, a deep voice, and facial hair. The *medulla of the adrenals* secretes hormones that play a great part in the emotional lives of human beings. In such emotions as anger or fear the adrenals pour their chemicals into the blood and stimulate the whole body to a pitch of great tension.

The *thymus* and the *pineal* glands may be mentioned together, since both are active in childhood and usually become less important after the onset of adolescence. Authorities inform us that these glands inhibit the maturation of the reproductive system. If either gland remains active for an abnor-

mally long time, the individual may continue to be a child in anatomical and physiological age. The various primary and secondary characteristics of sexual maturation may fail to develop. Should they cease, their normal activity at an early point in the child's development, the individual may mature precociously.

The *sex* glands not only control the maturation and function of the reproductive system, but also regulate the development of the secondary sex characteristics. Removal of these glands in a boy would cause him to become flabby of muscle, to lose his drive, and to develop a high-pitched voice. In a girl, their removal would effect the loss of feminine characteristics. The voice would become heavy, and facial hair would grow.

In reconsidering the foregoing discussion, the reader should take into account three important points. First, the science of endocrinology is a technical speciality far beyond the scope of this book. Consequently, only a few of the more familiar facts about these glands have been cited. The intent of the discussion is not to make the reader an expert in this field, but to give some appreciation of the importance of endocrine glands in the physical development of infants and children. Secondly, we must recognize the fact that the whole glandular system is interdependent. The activity of one endocrine gland affects the functioning of other glands. Some of these glands check development; others stimulate it. Since the various members of the endocrine system balance one another, we cannot attribute any phase of physical development or behavior to the activity of a single gland. Thirdly, there is an unwarranted tendency in some circles to make superficial and hasty generalizations about discoveries in endocrinology. The student of psychology should not take too seriously the popular accounts of the relationship between glands and crime or between glands and physical growth. In other words, the riddle of human nature is not solved by explaining everything in terms of glandular activity.

Muscular development. In infancy the proportion of musculature to total body weight is about one to four; in adulthood the ratio is about one to two. Some of this development is, of course, attributable to growth through exercise, but much of it is the result of maturation. In order that the child may benefit from various activities, they should be introduced at the proper developmental levels. For example, activities which require the use of small groups of muscles and fine neuromuscular coordinations are wholly inappropriate for the young child. The old-fashioned way of teaching handwriting to first graders is an illustration of an inappropriately placed activity. In the modern school the child is taught to write in a style which is in harmony with his level of development. College athletic coaches are familiar with the "burned-out athlete" who was encouraged to participate in strenuous contests before his muscular and anatomical development had properly matured.

Many adults express an impatience with the active behavior of young children. Consequently, they seek to keep children quiet. This procedure is harmful and unnatural since the healthy child is impelled to engage in a considerable amount of activity. Children cannot sit still in a classroom for hours without fidgeting and squirming. In fact, their ceaseless activity tends to facilitate the maturation processes. The only caution to observe is that development should not be forced.

An old dogma in child psychology, familiar to generations of students, is that development should proceed from "fundamental to accessory." "Fundamental" muscles are the large groups of muscles in the trunk and limbs; "accessory" muscles are the smaller groups, such as those in the fingers and toes and in the eyes and face. Now it appears that the muscles of the hands and the feet and of the eyes and face (so-called accessory muscles) develop about as soon as the larger muscles of the arms, the legs, and the trunk. Although this dogma is no longer accepted, it does have validity for child guidance. In teaching children, the principle is still useful. As a rule,

the best way to guide the child is from activities that are broad and general to those that are specific and intricate. Activities that require accurate muscular responses should be postponed until the child's development has proceeded to a rather high level of maturation. The old dogma also emphasizes the necessity for giving young children plenty of opportunity for unrestrained play activity and for freedom from adult criticisms.

THE HYGIENE OF DEVELOPMENT

One phase of development that is likely to escape notice until difficulties appear is the growth of the heart. In very early childhood the width of the heart and the width of the aorta have an approximate ratio of five to four. In adulthood the ratio is about five to one. Consequently, with such a large outlet in childhood, the heart is unable to furnish all the blood supply necessary for long continued exertion. Parents and teachers must supervise the child to see that activity is not too prolonged or strenuous. Dire effects may result if this caution is disregarded. In competitive play some active children are likely to drive themselves to a point of sheer exhaustion unless they are carefully supervised.

Susceptibility to fatigue varies greatly among children of the same chronological age. Apparently children are fatigued easily and recover quickly after a rest. An everyday illustration is supplied by the abundant energies of young children who have just awakened from a brief nap. Most parents have observed how quickly a small lunch appears to restore the energies of children who are weary after a play period. Corresponding somewhat to this sudden recovery from fatigue are rapid recoveries from minor illnesses. Children who at night have a rather high fever may awake in the morning with normal temperature and no symptoms of any disorder. Because children do recuperate quickly, there is a tendency for some parents and teachers to be too little solicitous for their health. It is important that rest periods, sleeping, and

meals be planned according to a schedule appropriate to the child's level of physical development and general health requirements.

It is particularly important that all who are concerned with the development of children be watchful to detect abnormalities in the organs of sight and hearing. Of all our sensory equipment, these two organs are the most important. Mental development may be seriously interrupted unless the child has normal hearing and visual acuity. Teachers and parents should, therefore, be alert to notice any signs which might indicate impairment of these organs. Children who appear to exhibit any abnormalities should be taken to medical specialists as soon as possible.

Perhaps the most important obligation of parents and teachers is to make certain that the child has every opportunity to develop into a physically healthy individual. Of course it is necessary to teach children a great many things, to provide conditions that will foster their intellectual growth, and to develop ethical character. Unless the child has a sound body, however, these desirable outcomes may never be attained. One might be justified in going to the extreme of saying that if the child develops into a physically healthy individual all these other outcomes will be achieved as by-products of that development.

QUESTIONS AND EXERCISES

1. What are some important factors which influence physical development?
2. By what signs could you recognize the following disorders in a young child: astigmatism, farsightedness, adenoids, underactivity of the thyroids, and a weak heart?
3. What are the dangers of interpreting the developmental status of an individual child by reference to tables of norms?
4. What services should a community health center for children offer? If you have the opportunity to visit a health center, investigate the type of work done there.
5. Why should the child's anatomical and physiological ages be

taken into account in planning a suitable program of play and work? Why would it not suffice to consider the chronological age alone?

6. Does physical development proceed at the rate at which it commences? Discuss this question fully.
7. Study carefully as many children of different ages as you can find, and draw up a table showing the different developmental levels represented in this group.
8. Make a study of the variations in weight among a group of children of the same height. Do the same for a group of children who weigh the same in order to discover any variations in height.
9. Do all body organs develop at the same rate? Explain fully.
10. Can you find any evidence to support the belief that children who creep at an early age also learn to walk early? Does precocious development indicate that a high level of development will be reached? Try to find some evidence among your acquaintances to support your answer.
11. What factors other than glandular secretions explain development? Have you ever heard any popularized accounts of the effect of glands upon development? Why should one be cautious in accepting such opinions?
12. Have you ever known of a child whose growth was "forced" by training? What was the ultimate effect?
13. Try to locate several babies of varying ages and write a description of the physical differences you find among them.
14. Visit several primary classrooms and observe how well the teachers adjust the work to the level of physical development in their pupils.

Chapter 4

Motor Development of the Child

IMPORTANCE OF STUDYING MOTOR DEVELOPMENT

The importance of motor behavior. The infant and the child learn before all else to control the body in order to carry on the ordinary processes of living. The satisfaction of tissue needs of food, water, elimination, and avoidance of harmful situations can occur with even minimum skill only as motor control develops. Head and eye movement, manipulation of objects, sitting, standing, crawling, walking, running, and jumping are activities basic to social and intellectual growth. The production of language sounds is first of all a motor process; later, handwriting must be mastered as motor behavior before it can become a useful intellectual tool; all through childhood, social contact, and hence social development, have a large and important motor background.

Even the adult cannot escape constant reliance upon the motor skills of himself and others. Whether engaged in industrial, commercial, professional, social, or recreational activity, his ideas must be translated into motor activity before they can become effective; factories must operate, transportation must be provided, books must be printed, etc. Continued intellectual growth is based upon the new contacts gained through eye control in reading, through managing the body for travel, through manual skill in the laboratory and workshop; one's conclusions are recorded and made effective by the motor skills of speaking and writing. That the popular fear of paralysis is second only to the horror of insanity is

This chapter was written by Clarence L. Ragsdale.

understandable when one reflects that loss of the means of making one's thoughts effective is very much like having those thoughts made disordered. From infancy to old age, motor control is essential to satisfactory living; understanding and controlling motor development is essential for satisfactory educational procedures.

Investigation of motor development is basic to child study. In a genetic study of children, the investigation of overt motor behavior is of primary importance. Almost a year of postnatal life passes before the beginnings of organized language, and it is almost as long before social behavior becomes significant. Throughout the preschool period the mental and social life of the child are closely bound to his motor behavior. To understand his work and play life one must understand the beginnings and the growth of those significant motor activities which are almost universally present, and which furnish the basic patterns out of which the special, more complex motor skills will develop.

Motor development as a subject for research. Researches concerned with the motor development of children are numerous; they include not only the school age child, the preschool child, and the infant, but also the neonate and the fetus. Longitudinal views, together with adequate cross-sectional analyses of motor development, are essential to understanding and guiding the child. Carmichael's ¹ summary of 354 investigations into prenatal behavior of humans and lower animals shows the interest of students of child development in the prenatal origins and growth of behavior. Numerous studies from the child development laboratories, nursery schools, and elementary schools contribute to an understanding of postnatal motor development.

MOTOR DEVELOPMENT IN THE FETUS AND NEONATE

Prenatal motor development in animals. To get a complete picture of motor development, it is necessary to go

further back than infancy. The search for the origins of behavior leads one back to the prenatal life, not only of the human, but also of the lower forms of animal life. The conclusions of investigators in this field are not in full agreement.

One group has concluded that in fetal animals the first movement is a trunk movement in the neck region and the course of development is away from this point as a center. Movement expands gradually as an integrated pattern down the body and outward through the four limbs. Specific reflex movements arise out of the total pattern and do not come first.

The second group agrees that a spontaneous mass reaction, significant because it is the emerging locomotor pattern, develops in the manner just described, but simultaneously with independent reflexes. The real location of first neurally induced activity is in the rear part of the shoulder region, whence it spreads in all directions. Thus there are two patterns developing simultaneously in early motor activity; one is the locomotor pattern, the expanding total unitary pattern progressing downward and outward into new areas of response; the other is the local reflex, the spread of which is restricted.

The first trunk movements are sideward bending of the trunk, unilateral, then bilateral, forward bending, and straightening. Rotation grows out of these, as do the swimming reaction, righting, posture, and four-limbed locomotion.

The first sensory development is apparently of the proprioceptive system. It appears very early in fetal life and at birth and is the best organized of the sensory fields for purposes of initiating and determining behavior.

Prenatal motor development in the human. Gesell¹ reminds us that postnatal patterns are organic continuations and further differentiations of fetal growth. We must therefore examine the human prenatal period for any light that it may throw on the motor development of the child. Major items drawn from the various reports are the following:

1. At about eight weeks there are wormlike movements of the trunk, arms and legs
2. During the third month labyrinthine reflexes are reported by Minkowski, but other workers attribute the same movements to the neck proprioceptors
3. By the sixth month there is an increased tendency toward independence in response
4. By the fifth or sixth month reciprocal muscle innervation occurs
5. Local muscular contractions in the six-month fetus are much more vivid after removal of the cerebral hemispheres, cerebral control is apparent
6. In the seventh month, responses involve synergic muscle groups.

Conclusions drawn from observations of the fetus of lower animals must be applied cautiously to man. The basic unilateral trunk bending of lower animals has not yet been demonstrated in the human fetus, trunk movements without arm movements have not yet been observed, there has been little evidence of rhythm in the limbs, and it may be that locomotor type movements of the limbs do not appear until late in the fetal period. Coghill, however, feels convinced that the general pattern of development is the same in man as in amblystoma. He believes that development occurs as an expansion of the total pattern that is a unitary whole from the beginning and out of which partial patterns (reflexes) arise by individuation.

Motor development in the neonate. In the neonate the whole organism is in a state of great activity. The so-called 'spontaneous movements' are probably organic continuations of the patterns developed during fetal life and are called forth by internal stimuli mainly from the gastro-intestinal tract.² Specific activities, such as suckling, are first diffuse and loosely organized, they quickly become rhythmic, well performed, and more localized.

At first the stimulation of almost any group of receptors by almost any kind of stimulus will lead to response in almost any part of the body. There does, however, seem to be some specificity of response owing to the fact that internal conditions produce a "set" to respond.¹ It seems that responses are not random and chaotic although they are highly generalized.² The initial response to any external stimulus occurs first in the part stimulated, but spreads so rapidly to other parts of the body that it has the appearance of a generalized activity. This generalized character of infant activity has great significance for learning.

McGraw³ says that at birth the upper part of the body is developed beyond that of the lower; at the same time there is greater activity in the lower extremities, representing a stage of development through which the upper part of the body passed before birth. The upper part of the body seems to be standing by for a time while emphasis is upon growth in the lower limbs; later, at about five or six months, the lower limbs take their turn at reduced activity—they are relatively dead weight pulled along by the first creeping efforts of the arms.

At this point we do not wish to describe the neonate completely,⁴ but only to recall the general picture of an organism capable of responding in a highly generalized and yet somewhat specific way to a great variety of stimuli, with head and shoulder regions more fully developed, with motor control now developing rapidly in the trunk and legs. The general picture of motor control expanding downward through the trunk and outward in the limbs continues in the neonate as in the fetus.

DEVELOPMENT OF POSTURE AND LOCOMOTION

Attaining the upright posture. The general pattern of development of the upright posture is the following:

1. Raising the head when lying on the abdomen.
2. Raising the head and chest with support on the elbows when in the prone position.
3. Sitting on adult's lap or on the floor with support applied to the lower back.
4. Sitting with rounded back when supported by his hands on the floor.
5. Sitting without support, back at first rounded, then straight.
6. Supporting entire weight on feet, if balanced by an adult.
7. Attaining sitting position unaided.
8. Standing when holding on to a chair.
9. Walking with assistance.
10. Pulling self to standing with aid of chair.
11. Walking alone.
12. Standing alone.
13. Attaining standing and walking position without assistance.

In Table II are listed items that are related to attaining the upright posture selected from the investigations of Gesell,¹ Shirley,² Bühler and Hetzer,³ Bayley,⁴ and Thompson.⁵ While there is general uniformity among infants in the sequence of appearance of behavior patterns, there is considerable variation in their recorded date of appearance, possibly owing to variations in the individuals studied as well as to differences in the criteria used by observers for determining the existence of a given pattern.

TABLE II. GENESIS OF THE UPRIGHT POSTURE AND OF LOCOMOTION

<i>Behavior item</i>	<i>Age in weeks as found by:</i>				
	<i>Gesell</i>	<i>Shurley</i>	<i>Buhler and Hetzer</i>	<i>Bayley</i>	<i>Thompson</i>
Lifts head when held to shoulder	4*	—	—	2	—
Lifts head in prone position	4	3	2	—	4
Turns head laterally, prone position	4	—	—	3	—
Makes postural adjustment when lifted	4	—	—	2	—
Head bobbingly erect, upright position	8	—	8	7	8
Lifts head when suspended dorsally	8	—	—	11	—
Lifts chest, prone position	8	9	12	16	—
Holds head erect and steady, upright position	12	—	—	11	16
Elevates self by arms, prone position	12	—	20	14	16
Lifts foot when held erect	—	13	—	—	12
Legs extend recurrently, held erect	—	—	—	—	20
Sits with support	16	—	—	14	16
Lifts head and shoulder- dorsal position	16	—	20	20	—
Definite anticipatory adjustments to being taken up	16	15	—	13	—
Sits with slight support	20	19	—	18	20
Rolls from back to stomach	20	—	—	—	—
Rests momentarily on abdomen and chest, prone position	—	—	20	—	24
Rests on thighs, abdomen, chest, and hands, prone position	—	—	20	—	24
Sits alone momentarily, back rounded	30	25	—	23	24
Sits erect, briefly	32	—	—	—	24
Held erect, stands firmly	—	29	—	—	32
Stands, holding furniture	—	20	—	—	32
Regresses, lying prone	—	40	—	—	40
Rests on thighs, lower abdomen and hands	—	—	—	—	36
Attains sitting from prone position	—	—	—	—	44
Attains creeping position from sitting	—	—	—	—	44
Pulls self to knees	—	—	—	—	44
Pulls self to standing	40	47	44	—	48
Creeps	—	45	32	38	48
Walks with help	48	45	48	44	—
Lowers self from standing to sitting	48	—	—	—	—
Stands alone	60	62	48	50	52
Walks alone	60	64	48	50	—
Achieves standing unaided	—	—	—	—	56-60
Walks sideways	—	—	—	66	—
Climbs stairs or chair	72	—	—	—	—
Walks backward	84	—	—	68	—
Goes up and down stairs	120	—	—	—	—
Tries to stand on one foot	120	—	—	—	—

Changes in the upright posture during childhood and adolescence. Since motor skills of all kinds demand an appropriate postural base, defects of posture have rightfully received much attention from specialists in physical education. Good posture is defined by Crampton¹ as the best adjustment of the various parts of the body to each other and of the body as a whole to the environment, task, or work. In spite of the seeming importance of posture, little is definitely known about its changes during childhood and adolescence. Findings of investigators lack comparability and are often conflicting. There is lack of agreement as to just what should be measured and lack of objective, reliable, and convenient measures. Potter² and Preston³ have recently summarized the literature on postural development and made considerable improvement in the technique of measuring posture in children. Satisfactory group studies may now be anticipated.

1 Posture at ages one to three. The chest is barrel shaped; prominent abdomen is normal, there is disagreement as to whether the head is erect or held forward, the scapulae are on the sides of the chest, the spine is slightly convex at birth (it tends to flatten during the first year, and the lumbar curve develops as the child stands). Bowlegs are common in the infant and knock-knees are frequent by three years, pelvic tilt is not adequately described, the feet are commonly flat with pads of fat over the soles.

2 Posture at ages three to five. There is disagreement as to whether the chest is high or low, but the transition to the broad flat chest is occurring. Prominent abdomen is still common, but is called a defect by some investigators, the head is held forward, the scapulae are commonly winged and promi-

nent; there is disagreement concerning the normal position of the shoulders, but they are often forward or rounded; kyphosis (round shoulders) and lordosis (hollow back) increase considerably, being present in twenty-five to thirty per cent of the children; knock-knees and bowlegs decrease in frequency and hyperextension is common; the sacral angle and pelvic inclination are increasing; the infantile pads of fat on the feet disappear, and the arches are improving although there is some tendency to pronation (toeing out).

3. Posture at ages five to twelve There is scarcity of data and lack of agreement among investigators on most points. The chest is becoming flatter; the abdomen is becoming flatter but is prominent as a fatigue posture; the head is erect, winged scapulae are still common, but they are approaching their final position flat against the back; the lumbar curve is increasing; there is lack of observation concerning the knees; foot arches are well developed.

4. During adolescence the posture approximates the adult form but is not yet adult. Specific developments have not been observed sufficiently.

Early locomotor activities. Locomotion is a factor of great importance in the child's mental and social as well as motor growth. The child who is forced to stay wherever he happens to be left is dependent for his educative contacts upon the things and people that come to him. Crawling, creeping, and walking open up new avenues of experience; as exploratory activities they lead to new contacts with the environment and cause a great expansion of it. Locomotor activities are important, also, as symptoms of the general developmental level of the child during his first year. Involving as they do coordinations of all the larger skeletal muscle groups in relationship to visual, kinesthetic, auditory, and tactual stimulation, the locomotor activities give a good index of general neurological development.

The general sequence of locomotor development is well understood as a result of the work of many investigators.

Table II gives a description of the major events in the genesis of locomotion. The general sequence of development of creeping and walking seems to be:

1. Development of control of the activities of head, neck, shoulder, and upper trunk together with the coordination of these motor activities with the eyes and ears, much progress having been made by the end of the third month.
2. Development of control of musculature of middle and lower trunk, hips and thighs, and upper arms during the fourth to eighth month.
3. Development of rolling front to back and back to front, pivoting on the abdomen, and regressing during the sixth to tenth months.
4. Learning to sit, at first with support and then alone during the fifth to eighth months
5. Getting from prone to sitting position and from sitting to prone during the tenth or eleventh month
6. Creeping at ten to twelve months.
7. Stepping movements when held in the standing position at four to five months
8. Supporting increasing fraction of weight when held in standing position beginning at four months and supporting entire weight at eight months, standing holding furniture at ten to eleven months.
9. Walking and standing alone at twelve to fourteen months.
10. Getting freely to and from standing position at thirteen to fifteen months.

During the second year the child learns to walk sideways, to walk up and down stairs, to walk backward, to run, and to climb up onto boxes and furniture. During the third year he learns to stand on one foot briefly, to gallop, to jump with both feet together, to jump down from low objects, to jump over low objects, and to turn somersaults; running shows great improvement. During the fourth year running is skillfully done, skipping may appear, jumping in all forms shows great improvement, hopping may be done briefly and poorly. By the end of the fifth year all the fundamental forms of locomotion are present and many of them are at a high level of skill;

thereafter improvement consists of refinement of form and pattern and not of the establishment of new patterns.

Swimming as a fundamental locomotor pattern may appear as a complete and effective performance before the end of the second year under favorable conditions. Swimming movements can be elicited during the first month of life. Two-year-old swimmers are occasionally found, and swimming during the fourth year of life is easily attained with a minimum of instruction (see Table IV for later development).

ARM-HAND CONTROL

The development of manual control during the first year. The reflex grasping and the arm slapping of the neonate may be regarded as starting points of a developmental sequence which reaches its culmination in the highly skilled manual activities of the adult. The behavior patterns must, however, be regarded as sensorimotor rather than as merely motor. Kinesthesia and vision are the chief sensory activities with which arm-hand movement must be coordinated.

Reflex grasping, present at birth, differs from the skilled grasping of later life in that it is a digital grasp rather than palmar; the thumb is not used in opposition to the forefinger, but is adducted under the rod. Reflex grasping begins to decline in the second month; partial thumb opposition is present by the fifth month and is well established by the ninth month.

The hand may be regarded as a "feeler" of the human body. The cutaneous and kinesthetic impressions coming from the use of the hand and arm undoubtedly have much to do with the development of perceptions of distance, direction, and size. The hand is richly supplied with sensory end organs. Visual and auditory patterns, along with kinesthetic and tactual ones of the hand and arm, form the major sensory bases of skilled manual activity. As a manipulatory and exploratory organ, the hand is of major importance in establishing effective sensory contact with the environment.

The sequence of establishment of skilled control is that of

TABLE III. GENESIS OF ARM-HAND CONTROL

<i>Behavior item</i>	<i>Age in weeks as found by:</i>		
	<i>Gesell</i>	<i>Buhler and Hetzer</i>	<i>Bayley</i>
Vertical arm thrusts in play, dorsal position	8	—	7
Motor adjustments, shoulder region, on being lifted	8	—	—
Pushes or elevates self by arms, prone position	12	20	14
Closes hands on ring	16	—	4
Splashes with hands in bath	16	—	—
Definite anticipatory adjustments	16	—	13
Holds rattle	—	12	—
Picks up cube	20	—	—
Partial thumb opposition	—	—	20
Recovers rattle, dorsal position	20	—	—
Reaches	20	20	—
Eyes cooperate in prehension and manipulation	20	—	—
Bangs spoon	24	—	—
Tends to unilateral reaching and manipulation	28	—	26
Rotates wrist freely	28	—	26
Scoops pellet	28	—	—
Pulls to sitting position	—	24	26
Partial finger prehension, pellet	32	—	31
Shows interest in throwing and sound production play	32	—	—
Looks for fallen spoon	32	—	—
Opposes thumb in cube prehension	36	—	—
Pulls self to standing position	40	44	6
Precise pincerlike prehension, pellet	40	—	—
Throws ball into box	72	—	—
Places cube in cup, plate, or box	96	—	—

control of whole arm from the shoulder, next elbow control, then finger skills, and finally wrist control. Castner¹ found that development of the ability to pick up a small object showed the following sequence: whole hand closure, palmar prehension, scissors closure, and pincer prehension. Reaching progresses from a rounded semicircular reach with frequent misses to a straight, direct reach without fumbling. The final control of reaching and grasping requires complete synergic control over the muscles of the trunk for sitting equilibrium

and bending and twisting, as well as control over the muscles of the arm and hand. Visual, kinesthetic, and vestibular receptors must work in coordination with muscular contraction. The early jerky, inaccurate efforts gradually become smooth, direct, and accurate.

During the first forty weeks of life, the shoulder functions more effectively in reaching behavior than either the trunk, elbow, wrist, or digits. By sixteen weeks, elbow and digits are beginning to be effective and by forty weeks they are about equal to the shoulder in effectiveness. Trunk and wrist are functionally slower in development. (It must be borne in mind that sitting equilibrium is still precarious at thirty weeks.) By thirty-two weeks trunk and wrist show improvement in reaching and by forty weeks are as useful as other parts of the body.

In general, reaching is fairly well established by six months. It must be at least moderately well developed before manipulatory and exploratory activities can begin to have importance.

Hand preference. By one year many children have come to show clear preference for one or the other hand in reaching for and handling objects, although hand preference may not develop until two or even three years. Attempts by parents to control hand preference by placing toys and eating utensils in the right hand are probably both harmless and ineffective in most cases. Insistence upon the use of the right hand may be harmful.

The old controversy concerning the causes of handedness, whether hereditary or acquired, has not been settled.¹ Today the major differences of opinion center about three theories: (1) that handedness is due to early education; (2) that it is related to the dominance of one cerebral hemisphere; and (3) that the preferred use of one eye (ocular dominance) leads to the preferred use of the corresponding hand.

The major concern of educators and parents is with the

problem whether forced change of handedness interferes with speech. Most investigators agree that speech defects, especially stuttering, are more common among dextrosinistrals (formerly left-handed people who write with the right hand) than would otherwise be expected.¹

Throwing. Throwing is a behavior pattern that is present in many of the plays and games of children and of adults and was undoubtedly one of the most important tool activities of primitive peoples. The course of development of purposes associated with throwing and of the body skills that serve those purposes is a matter of real concern to the student of human growth as well as to the specialist in physical education. The development of throwing has not been studied extensively, although there are a few good studies that give an outline of the main facts.

Throwing clearly demands a postural base; the child must be able to assume and maintain with fair equilibrium a favorable posture, usually upright, before throwing in the common meaning of the term can be effective. He must also show some development of simple reaching, voluntary grasping, and opening the hand to release an object before he can learn to throw.

Simple throwing from the sitting position occurs at six months,² the thrown ball has definite direction at eleven months,³ and cooperative ball play can be initiated in two out of five children at thirteen months. During the second year ball throwing improves greatly in direction and distance, and catching may occur under exceptionally favorable conditions. The two-year-old delights in playing simple catch and toss with a ball. The attempted catch is usually a double arm

catch with the ball trapped against the chest, but failure is the rule.

Development during the third year may be illustrated by Cunningham's¹ test items

At twenty-four months, to throw a bean bag into a twelve inch hole after practice

At thirty months, to throw a bean bag into a hole at three feet twice in three trials

At thirty-six months, to throw a soft ball into a basket from a distance of three feet (elevation of basket three feet)

At thirty-six months, to throw a hoop onto a rod elevated to three feet from a distance of three feet

There are apparently typical patterns of throwing for children of any given age level. The following seems to be the course of development of the hand overhand throw.

1 Two to three years. There is no shifting of the body, the arm is drawn backward directly over the shoulder or obliquely in some cases, and the delivery is made by swinging the arm forward directly over the shoulder.

2 Two to four years. The trunk is bowed backward and the legs lean forward from the ankles during the reverse swing and the opposite occurs during the forward swing. The arm is drawn obliquely backward and swings forward directly over the shoulder.

3 Three and one-half to five years. Rotation of the whole body about the feet is present, and there is a forward shift of the body during the delivery. The backward swing of the arm is flatter than at earlier ages, but the delivery is still over the shoulder.

4 Four and one-half to six years. There is rotation of the whole body and a stepping forward with the right foot during the delivery. The backward swing of the arm is almost horizontal, and the forward swing may be sideways around the shoulder.

5 Girls, six to twelve years. Any pattern of reverse swing of the arm may be used, body rotation is present in many cases, incipient or complete stepping forward with the left foot occurs.

6. Boys, six to twelve years. The arm swing is almost horizontal; there is good body rotation and complete stepping forward with the left foot.

7. In general, age patterns overlap.

8. Girls and boys have similar throwing patterns, but girls stop at a lower level of development than boys.

9. The forward swing, that is, the delivery, occupies progressively a smaller portion of the total time, and the ball is released earlier in the path of the swing.

10. Initial velocity of the ball varies from eight feet per second for a two-year-old girl to seventy-five feet per second for a twelve-year-old boy and one hundred and sixty-six feet per second for a major league pitcher.

11. The manner of making the hard overhand throw is a function of age. Correlations between age and evaluations of the throw are $+0.91 \pm 0.022$ for the entire group; $+0.92 \pm 0.027$ for the girls; and $+0.97 \pm 0.01$ for the boys.

Miss Wild's study indicates that the basic throwing pattern is well developed shortly after six years of age. Later improvement in throwing consists of refinement upon the details of the pattern, accompanied by increasing muscular strength and lengthening leverage furnished by the body parts. The basic developmental sequence is from the shoulder girdle as a center outward through the arms, downward through trunk and legs.

Handwriting.¹ The course of development of control of hand and arm in writing has specific practical importance as well as theoretical interest. (We are here concerned with the motor control and not with correctness of spelling or with ideas expressed.) The mass activity which characterizes the early stages of all complicated motor skills is very apparent in learning to write. The child literally writes with the whole body—activities in the head, trunk, legs, and feet are noticeable, as well as respiratory and circulatory changes. As control of the writing movement develops, these other activities are not simply *eliminated*, they are *transformed into cooperative activities*, especially of posture and energy metabolism; they continue

as a seldom noticed but very important background, while the arm-hand behavior becomes a center about which they are coordinated.

When the two-year-old child is given a pencil or crayon and endeavors to write, he may hold it to good advantage between thumb and fingers (often as well as at six or eight years). His writing, however, consists of straight lines, circles, and curves overlapping and crossed with no apparent design or plan. By four years scribbling has begun to show a pattern conforming to writing requirements, wavy lines across the page, often with orally stated meaning. Direction of movement may be consistently left to right, although right to left occurs sometimes. At about that same time a child who has become interested in numbers may be induced to copy a 3 or a 4

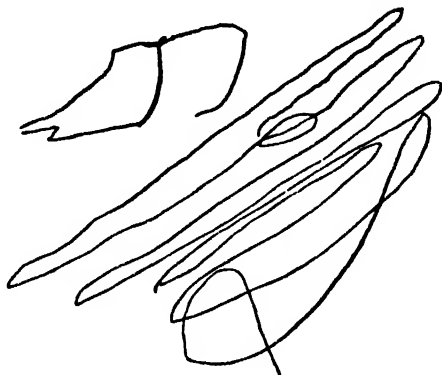


FIG. 8. Showing sample of child's handwriting at two and one-half years.

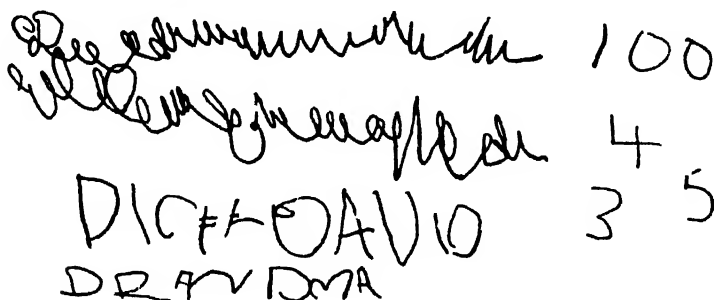


FIG. 9. Showing sample of a child's handwriting at four and one-quarter years.

His product may be badly proportioned, inverted, reversed, or on its side, but it is usually recognizable. By school age, about one-third of children have become able to write their own names in legible form.

First writing efforts are likely to occur with long, sweeping arm strokes, but the small, cramped style is not unknown in the scribbling of the four-year-old.

Typewriting.¹ The smoothness with which work flows through the machine of the expert typist is no accident, but the result of a long course of motor development coordinated with thinking processes. The developmental pattern, beginning with diffuse mass action, and the process of refinement upon it are not so readily observable as in handwriting, being obscured by the demands of the typewriter as a machine. Since typing is ordinarily learned at a relatively high general maturity level, much of the initial learning is already completed or at least well under way. Brief instruction leads the beginner to take a favorable posture and to coordinate general patterns of overt behavior. His attack is very well localized upon the typewriter and upon hand and finger action in his first learning period. When typing is more commonly learned by primary grade children, the same mass action characteristic of handwriting may be apparent in the beginner.

The motor problem can be more readily understood if we first grasp a simple fact --the machine does not transmit the results of a faulty movement directly to the paper as in handwriting, but it effectively screens out all variations in movement except one, the striking of the right or wrong key. (Intensity variations are purposely neglected here.) Typing is essentially an aiming activity of the fingers, the guiding sensory cues coming from vision and kinesthesia. The *young child* must look at the point at which he is aiming--*i.e.*, look at the keys; the *more mature* individual can rely upon previously developed skills and aim at the key while looking at a chart of the keyboard. In both cases first movements are inaccurate, resulting in misses, wrong keys struck. Quite rapidly, serial aiming habits with kinesthetic cues are built up for individual words

and postural patterns; vision becomes freed for looking at the copy. Blindfold driving of a golf ball, blindfold free throwing in basketball, and "touch" typing *are alike in being aiming done by means of kinesthetic, postural cues.* The developmental problem is properly one of motor *learning* when typing is begun at high school age or later. When begun in the primary grades, its learning must conform to the motor *growth* principles of childhood.

GENERAL ASPECTS OF MOTOR CONTROL

Speed of movement. The speed of voluntary movement of infants and children under four years has not been reported upon except in general terms. Application of standardized motor tests is difficult at the earlier ages because of brief attention span and because of failure to understand or follow directions that are essential to usual testing procedures. In such an activity as rocking on hands and knees, the eight-month-old child shows a speed and persistence of performance that compares favorably with that of an adult in a similar activity. The stepping rate of two- to three-year-old children in walking is higher than that of an adult. In general, speed of activity of the large muscle groups is well developed, although test directions designed to secure high speeds of action are likely to be ineffective. Rate of voluntary action in the finer muscles, as those controlling the hand and fingers, is probably relatively slow.

One of the most extensively investigated activities of finer muscle groups is tapping, especially finger tapping and toe tapping. (The movement is actually performed mainly by the elbow, wrist, and ankle joints.) As early as 1914, Whipple¹ summarized many observations of tapping rate. Finger tapping rate increases with age up to at least eighteen years, increasing by approximately one-third between eight and eighteen. Kindergarten children make about four taps per second,

eight-year-old children about five, and eighteen-year-olds about six and one-half. The unpracticed college student makes six to seven taps per second and increases to nine to eleven per second with comparatively brief practice. This rate, repeatedly obtained in the writer's laboratory, approximates the theoretical maximum of ten muscle contractions per second, based upon facts of muscle and nerve physiology.

In childhood, sex differences in rate of movement are slight, but men seem to be slightly faster than women.

Speed in athletic activities. National physical achievement standards (quoted later in this chapter) show important increases in speed of running, swimming, and basketball goal shooting during school age. Speed records in the short running and swimming events are usually made before twenty-five years. In events for girls requiring speed and leg drive, there tends to be a slowing down rather than improvement after puberty.

Accuracy of movement. Measurement of accuracy of movement necessarily involves the speed factor to some extent. Tests vary all the way from those that require slow, steady movement to those requiring rapid, accurate movement. Accuracy is, moreover, so greatly dependent upon special practice in the particular behavior pattern that generalizations concerning improvement with age independent of practice must be made with caution. Consequently, tests of accuracy as found in psychological laboratories commonly involve relatively simple, widely familiar activities, aiming and tracing being most often used.

Aiming grows out of the playful arm thrusts of early infancy. Considerable accuracy in aiming is present when, at twenty weeks, the child succeeds in reaching for and picking up a cube. Opposition of thumb and forefinger in picking up small objects at forty weeks involves accurate finger aiming. Rolling a ball to the examiner at fifteen months requires aiming of a complicated type. The simple catch and toss of the two-year-old, the throwing of a ball into a basket of the three-year-old,

the striking with a bat of the four-year-old—all these are complicated cases of aiming and give evidence of increasing accuracy and complexity of control.

Improvement in accuracy as found in laboratory tests. One of the oldest forms of aiming test is that described by Whipple.¹ Small crosses are drawn on a cardboard target, and a child tries to strike them with a pencil, using preferably a whole arm movement from the shoulder. On other types of target, successes are registered by electrical contact. Ball throwing and dart throwing are particularly appropriate when it is desired to include the effects of specific practice. Tracing tests usually involve such activities as marking with a pencil between two gradually converging lines, moving a metal stylus between two gradually converging metal strips, tracing a diamond, a star, or a cross, or mirror tracing.

In general, there is a gradual increase in accuracy with age. During the preschool and early elementary school years improvement is rapid. Improvement continues at least into late adolescence. Sex differences are so small as to be insignificant.

Improvement in accuracy as found in athletic activities. National physical achievement standards show definite increases in accuracy throughout elementary school and high school ages in such activities as kicking, rolling, and throwing a ball, managing the body in stunts, executing swimming strokes, diving, catching, and basketball goal shooting. It is common knowledge that accuracy of performance increases with age in a great variety of skills in which certain minimum learning opportunities are present.

Improvement in accuracy as found in written and spoken language. Changes in handwriting and typewriting were discussed earlier in this chapter. The spoken language furnishes an almost universally present example of improvement in accuracy of motor control. The major improvements occur during infancy and the preschool period. For a full discussion, see Chapter 6.

¹G M Whipple, *op. cit.*

Steadiness of motor control. Steadiness is commonly measured by determining the extent of involuntary muscular tremors present when the body or one of the limbs is held as nearly motionless as possible. The tracing tests previously described also measure steadiness. Steadiness shows up in many complicated activities such as handwriting, drawing, engraving, shooting a gun, woodworking, metal working, and many athletic activities. Satisfactory age norms on steadiness tests are lacking. There does, however, seem to be definite improvement during childhood and adolescence. Sex differences are not well established.

Habituation to circumstances of the test activity and influences that favor relaxation may be expected to improve steadiness scores. Steadiness is probably unfavorably affected by caffeine and by tobacco smoking, although effects undoubtedly vary with individuals and with the degree of addiction to the drug.

Muscular strength. Muscular strength has long been considered as a good index of motor maturity and physical fitness. Rogers ¹ in 1926 presented a set of measures of lung capacity, strength of grip, back strength, leg strength, and arm strength as providing an index of physical fitness and a good means of classifying boys for competition. Rogers believes that there is probably a close positive relationship between the strength of skeletal muscles and the efficiency of the organs of circulation, respiration, digestion, and elimination; furthermore, he believes strength to have a good correlation with effectiveness of muscular coordination. Walters ² showed that a group of selected, physically unfit college girls made better scores on Rogers' tests than a group selected as being physically superior. Other investigators throw doubt upon the validity of Rogers' findings.

Tests of muscular strength usually involve muscular pull against a dynamometer with a record of maximum contrac-

tion, or the performance of a task from which strength may be estimated. Other tests are made by exerting pull against a maximally contracted muscle to get its "breaking" strength. This latter technique is apparently the superior one, although its satisfactory administration requires some improvements in apparatus.

Strength of grip for both boys and girls increases steadily until about fourteen, at which point it increases more rapidly in boys until seventeen and then begins to slow down with approaching maturity. At fourteen in girls the annual increase becomes smaller, and maximum strength is reached at sixteen to seventeen. At all ages boys are stronger than girls.

Certainly muscular strength is highly subject to environmental influences. Exercise, sleep, rest, sunshine, nutrition, and disease all play an important part. The favorably exercised and well-nourished muscle cell increases in size and in contractile strength during childhood. Parents and teachers must make adequate provision for these factors to secure development appropriate to the life the child will lead both in work and recreation. Optimum development for an individual may not usually mean maximum development, but the weakling may be seriously handicapped in healthful, happy living, and unless adequate growth occurs before the end of adolescence it cannot be attained later.

Motor endurance and fatigue. Endurance or fatigue may refer to the activity of a single muscle, of a muscle group, or of the body as a whole. Endurance and fatigue of the body as a whole are not easily measured at any age. Evidence, however, shows rather convincingly that endurance increases with age. Spontaneous activity of infants and preschool children is usually of short duration, rest pauses are frequent. However, many a parent has marveled at the endurance of a baby crying vigorously for two hours, or rocking on hands and knees scores of times in succession.

In finger tapping, Gilbert¹ found little change in susceptibil-

ity to fatigue between six and nine years. From nine to sixteen in girls and seventeen in boys, resistance to fatigue increased steadily. The national physical achievement standards show increases with age in endurance activities such as rope climbing, running, and swimming. Peak performance in athletic activities calling for endurance—distance running, football, boxing, distance swimming—is usually attained in the twenties.

Improvement of endurance with age up to maturity is undoubtedly associated with the well-known facts of physical growth—change in size and character of muscle fibers, heart size, blood pressure, oxygen carrying power of red blood cells, lung capacity, and changes in glands of internal secretion.

Motor rhythm. Motor rhythm refers to the perception of organization and pattern in serial behavior. Usually it means that the performer or observer is able to perceive certain recurring similarities of pattern and organization. Actions are perceived as organized in similar groups. The organizing factors are usually regarded as being perceived duration and intensity of kinesthetic stimulation. Movements differ from one another in duration, temporal spacing, and intensity; these time and intensity differences, occurring in certain recognizable patterns, are perceived as motor rhythm. There is usually the further assumption that rhythmic organization is synonymous with effective, energy-conserving organization, the opposite of awkwardness.

The development of ability to make motor responses to perceived rhythms has been fairly well investigated. There is a definite increase with age in the ability to keep time to music by walking and by beating time with the hands. The ability of five-year-old children is more than double that of two-year-olds, and adults' scores are twice as high as those of five-year-old children.¹

The more important productive or creative aspect of rhythm has been less successfully studied. Meyer¹ has developed an apparatus for learning new types of basic rhythms. H'Doubler² gives many interesting methods for teaching and learning the fundamentals of motor rhythm. The writer has recorded observations of nursery school children showing the occurrence of spontaneous rhythmic behavior in drum beating at two and one-half years. Rhythmic galloping has been seen at three years and skipping at four. Classes for nursery school children in productive motor rhythm have been successfully operated by the Women's Department of Physical Education at the University of Wisconsin.

The learning of many motor activities can probably be greatly facilitated by the wise use of rhythmic factors. Rhythm as an aid in learning to typewrite has been extensively investigated. However, owing to the failure of investigators to distinguish between the use of *imposed* rhythm patterns set by musical accompaniment and the use of the natural or "prose"³ type of rhythm, the results have been disappointing. Teachers of physical education make a crude use of rhythm by counting to set the patterns of activities; finer analysis is, however, required for more satisfactory results.

NATIONAL PHYSICAL ACHIEVEMENT STANDARDS

The development of physical achievement standards. A clue to the general course of motor development may be obtained by a study of physical achievement standards of boys as prepared by a committee of leaders in the field of physical education. They are based upon test data collected from nearly 75,000 individuals. They assume good school instruction in the activities listed. These are achievement standards and not records of superior individuals nor norms for motor ability tests or capacity tests.

TABLE IV NATIONAL PHYSICAL ACHIEVEMENT STANDARDS (BOYS) ¹

	Standards for ages				
	8-9	10-11	12-13	14-15	16-19
<i>Game Skills</i>					
Soccer goal kick	3 out of 5 at 30 ft	3 out of 5 at 40 ft	—	— —	—
Football goal place kick	—	—	2 out of 5 at 45 ft	2 out of 5 at 60 ft	—
Hit bowling pin with 12 in ball	3 out of 10 at 15 ft	3 out of 10 at 20 ft	— —	—	—
Baseball target throw, 12 in ball	—	—	3 out of 6 at 25 ft	3 out of 6 at 30 ft	—
Basketball goal shoot- ing	2 goals in 45 sec	3 goals in 30 sec	5 goals in 25 sec	7 goals in 30 sec	— —
Volleyball service	3 out of 10	5 out of 10	—	—	— —
Tennis serve	—	—	3 out of 6	3 out of 5	—
Catching fly ball	3 out of 5 at 45 ft	3 out of 5 at 65 ft	—	— —	— —
Catching place- kicked football be- hind goal posts	—	— —	3 out of 5	4 out of 5	— —
<i>Track and Field</i>					
50 yard dash	9 sec	8 sec	—	—	—
100 yard dash	—	—	14 sec	13 sec	11 sec
Standing broad jump	5 ft	5 ft 6 in	—	—	—
Running broad jump	—	—	12 ft 4 in	12 ft 10 in	15 ft 6 in
Running high jump	—	—	5 ft 10 in	4 ft	4 ft 6 in
Baseball throw	0 ft	110 ft	160 ft	150 ft	—
8 lb shot	—	—	—	—	35 ft
Standing hop (top and jump)	13 ft	15 ft	—	—	—
(put to rest 15 ft be- tween 1 ft be- tween 1 cm and finish)	4 sec	32 sec	—	—	—
200 yard run	—	—	35 sec	45 sec	28 sec
<i>Gymnastic</i>					
Rope climb, hands and feet	15 ft	18 ft	16 ft in 9 sec	14 ft in 8 sec	18 ft
Hand stand against wall	7 sec	—	13 sec (still)	4 sec (still)	Backward roll to hand stand

¹ Form of table has been modified by the writer to show age progression more clearly. Not all performances are required at each age level to pass test. Refer to original standards for testing techniques and scoring. *Instruction Book* of the National Physical Achievement Standards Committee, H. S. Poucher, Chairman, National Recreation Association, New York.

TABLE IV. NATIONAL PHYSICAL ACHIEVEMENT STANDARDS (BOYS) (Cont.)

	Standards for ages				
	8-9	10-11	12-13	14-15	16-19
Head stand	---	3 sec	---	---	---
Running vault over bar or fence	3 ft	3 ft 6 in	4 ft	4 ft 6 in	---
Standing bar vault	---	---	---	---	5 ft
Hanging between 2 ropes, turn backward and return	May touch ground	Without touching	Bend only at hips	Knees rigid, bend hips	---
Circling bar backward from hang to front support	---	---	---	---	Any dismount
Turn vertical plane cart wheel	1	2 or more	---	---	---
Forward spring	---	---	Head spring	Hand spring	---
Handspring backward or somersault front or back	---	---	---	---	Front or back
<i>Water Sports</i>					
Jump into water feet first and swim any style, coming to a full stop and assuming a vertical position at least once during the swim	40 yd	60 yd	180 yd	200 yd	140 yd
Recover object by surface dives	Surface dive without touching feet while in 5 ft water	5 lb at 6 ft once in 5	5 lb at 8 ft twice in 5	5 lb at 8 ft 3 cut of 5	10 lb at 8 ft 10 ft 5 out of 5
Swim, free style	20 yd in 20 sec	20 yd in 18 sec	40 yd in 37 sec	40 yd in 35 sec	100 yd in 1 min 25 sec
Execute dive in good form	Front dive standing head first	Front running	Sailor dive	Front jack dive	Front, back, jack dive
Demonstrate a number of the following strokes: breast, back, side, crawl or trudgeon swimming 50 ft for each stroke demonstrated	2	3	3	4	4 + tread water 1 min

MOTOR LEARNING

Principles of learning. There seems good reason to suppose that motor skills are learned according to the same general principles as other forms of behavior. The most fundamental of these principles are summarized here:

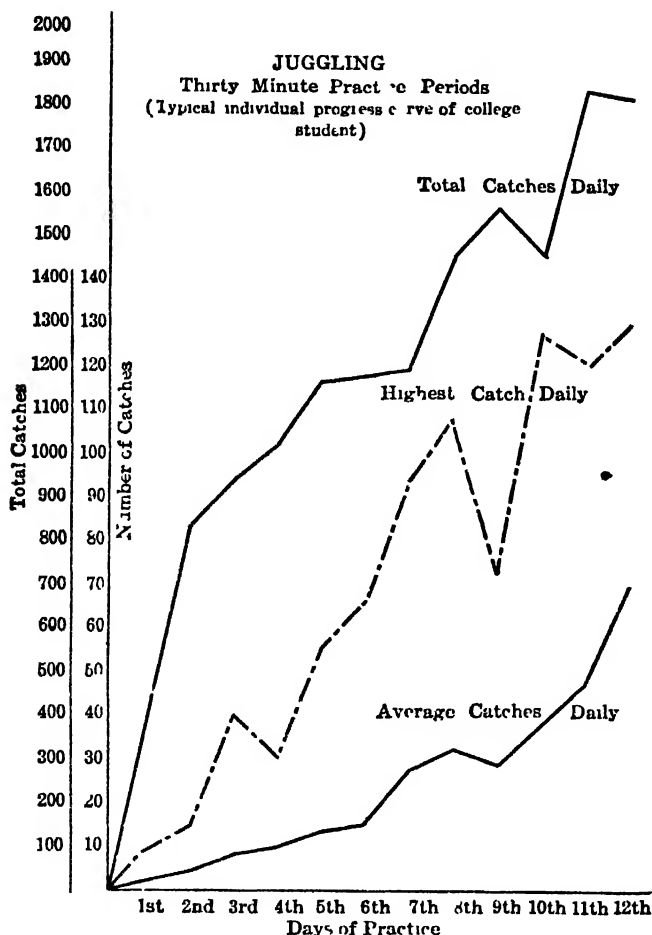


FIG. 10. Showing progress made in ball juggling by a college student over a period of twelve days.

1. Good opportunity, which includes good equipment and physical surroundings, adequate social stimulation, and the services of a good teacher.

2. Good motivation, which includes good opportunity adapted to the maturity level of the child.

3. Understanding of the goals to be attained, *i.e.*, awareness of the desired results of the activity and of the degree of effectiveness with which they should be attained.

4. Understanding of the degree of success or failure attained.

5. Understanding of relationships between activities engaged in and degree of success or failure.

6. Repetition of opportunity, since the understandings required usually come by degrees instead of suddenly in complete form.

Learning is not so much a matter of fixing stereotyped actions as it is a process of change, improvement, and discovery.¹

Rate of learning. The general course of development of skill has been stated to be: (1)

that of rapid progress at first with gradual slowing down to a final plateau.² and (2)

that of slow progress at first followed by gradually increased rate until a high degree of skill is attained.³

Actually it is possible to obtain apparent rates of learning conforming to either of the two patterns by choosing an appropriate unit of measurement of level of per-

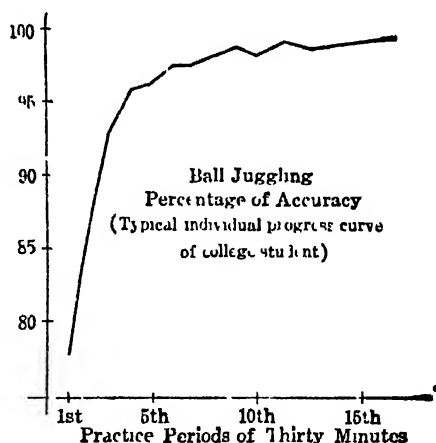


Fig. 11. Showing effect of practice at ball juggling on accuracy of catches.

formance. In general, speed curves and percentage of accuracy curves are negatively accelerated; curves providing a heavy penalty for errors are positively accelerated. The acceleration

of the learning curve is likewise dependent upon the working conditions, motivation, the maturity of the learner, and the character of the instruction.

Efficiency in motor learning.¹ We can here only summarize the main findings of many investigations.

1. Good equipment and physical surroundings promote efficient learning.

2. Good instruction promotes efficient learning.

3. Learning should be concerned with meaningful units rather than abstracted part activities; the more advanced the learner, the more detailed may be his attack upon the activity.

4. A correct start is essential. This means that the learner must have a general understanding of the goal and of the activity that will attain it, it does *not* mean perfection at the first trial.

5. The learner must be able to get adequate information about his progress, *i.e.*, about his degree of success.

6. Demonstrations are particularly valuable for beginners.

7. Verbal directions should be used sparingly at first, but have more value as an adequate movement vocabulary is built up.

8. Manual guidance is particularly valuable for beginners.

9. Practice periods for a simple skill should be brief, in most motor activities ten to twenty minutes are most efficient for children of high school age, two or three minutes are often enough for preschool children. Concentrated practice should be avoided.

10. Long periods of no improvement are due to such things as boredom, distractions, poor teaching, persistent undesirable habits, radical changes in style, and ill health. They are avoided by good teaching.

11. Strong motivation leads to rapid learning.

12. It is possible to reduce learning efficiency by oversuper-

vision; a large amount of independent activity is necessary for efficient learning.

13. A certain degree of maturity is required for the efficient learning of any given activity. To attempt to learn an activity in advance of adequate maturity is wasteful.

14. Errors are best eliminated by *positive* instruction; inform the learner what to do rather than what to avoid.

15. Persistent errors should be studied, practiced, and understood until they can be produced as skilled performances; then turn to attempts to master the *good* performance.

16. Efficient learning takes advantage of previous learning; it is built upon the facts of transfer of training and motivation.

NATURE AND RELATIONSHIPS OF MOTOR ABILITIES

Relationships to abstract intelligence. There is general agreement among investigators that motor capacities are relatively independent of abstract intelligence. The correlation of intelligence with tests of simple motor abilities, play ability in group games, and physical traits is positive but low.¹

Interrelations among motor skills—the problem of a general motor ability. The intercorrelations among simple motor capacities are so low that terms such as *motor dexterity* are likely to be misleading. Investigators, whether working with children or adults, find no evidence for the existence of a general motor ability.²

The following conclusions seem justified on the basis of existing reports:

1. The concept of general motor ability is unsound.
2. Muscular strength is a common factor leading to good intercorrelations among motor activities in which it is important.
3. Speed of movement may be a common factor leading to fair intercorrelations among a group of activities.
4. Accuracy of movement is specific; there is no general accuracy factor.
5. There may be an endurance, or persistence, or attitude factor that is common to a number of motor activities.

Relationship to social adjustment. Motor skill is certainly a factor in a child's social and emotional adjustment. Development of skill increases aggressiveness, poise, and ability to meet failure and helps in overcoming childhood fears.¹ The occupational success of college athletes has been the subject of numerous studies. The criteria of success are admittedly inadequate, but, such as they are, they show better success for the athlete than for the nonathlete. Probably motor skills are important in building desirable personal and social qualities in childhood, and these qualities seem to persist into adult life.

QUESTIONS AND EXERCISES

1. What does motor behavior contribute to perceptual development?
2. What is the correlation between tests of motor behavior status in early childhood and tests of general intelligence after six years of age?
3. What are some illustrations of cephalocaudal motor development? Of proximodistal motor development?
4. Describe a generalized behavior pattern in the neonate. What are some of the specific behavior patterns that develop from it?

5. If possible, observe a preschool child and an upper elementary grade child jumping with both feet together. What are the major differences in form? How do you account for the differences?
6. What is the meaning of the statement that reaching requires a postural base, when it can be done while lying, sitting, standing, walking, running, or jumping?
7. How can you determine whether a child is ready to learn handwriting? Does learning handwriting commonly begin with specific school instruction in it?
8. Why is looking at the keys while learning usually frowned upon by teachers of typing? Are there any good arguments for the practice of looking at the keys by some learners?
9. What are some of the reasons why endurance in motor activities is low in young children? In children just before puberty?
10. What are the reasons for the slowing down in speed of running which is found to begin in girls at junior high school age?
11. What are some interrelation between speed, accuracy, endurance, and rhythm in motor activities?
12. What are some reasons for the low intercorrelations between motor activities requiring primarily accuracy of movement?
13. Suppose that you are recording the progress of a group of beginners in typing up to the point where the class average is forty net words per minute. What measures of skill could you employ that might be expected to give positively accelerated learning curves? Negatively accelerated learning curves? What would probably be the motivational effects of the different measures, and how do you think the effects would vary with degree of skill?
14. How would you proceed to make effective use of rhythm in teaching the breast stroke in swimming? In teaching bowling?
15. Compare the motor behavior of ten- and twenty-year-old boys (or girls). Consider speed, strength, endurance, skills, and interests.

Chapter 5

Growth in Motivation during Childhood

THE NATURE AND IMPORTANCE OF MOTIVATION

The meaning of motivation. By motivation, psychologists mean the employment of a special set of conditions designed to secure or to inhibit some *particular* pattern of reasonably vigorous activity that is being investigated. The rat is made hungry so that it will run actively through a maze; the child is rewarded or punished so that he will alertly follow directions. Parents and teachers, too, commonly have a similar meaning in mind. They have *determined upon something* that they wish the child to do or to refrain from doing; they offer punishment or threats of punishment, rewards or promises of rewards to secure wide-awake action or avoidance.

The general opinion seems to be that motivation refers to two somewhat different matters: (1) raising the energy level of behavior, and (2) directing activity into or away from certain specified patterns. Among educators, both results are regarded as being somehow of higher quality or of more educational worth, if there is a minimum of external and a maximum of internal - *purposeful* - control. The psychologist has been concerned with motivation; the educator, with *good* motivation.

The importance of motivation. Since, by definition, motivation is concerned with the vigor and direction of activity, its value is apparent. It has two major uses for psychologists, teachers, and parents alike: (1) motivation of a desired performance, and (2) motivation of a desired learning.

This chapter was written by Clarence E. Ragsdale.

Its objectives are to save time, to increase efficiency, to control action, to hasten learning, to reduce fatigue, to eliminate monotony, to reduce boredom, to increase enjoyment. A study of motivation is a study of how these things are accomplished.

The foundations of motivation. No psychologist, parent, or teacher, in dealing with a child, works with a fully plastic substance that may be induced to follow wholly the patterns set by him. From the very beginning, the child has a character and a disposition of his own and he insists upon stubbornly refusing to fit into some molds and upon reshaping others according to his own characteristics. It is true that the child is raw material, but it is material that is already well advanced upon the way to becoming a human adult. Effective motivation must, therefore, begin by being based upon an intimate acquaintance with the nature of the children whom one wishes to motivate. It must, moreover, be based upon a *functional* acquaintance with children; how children actually do respond to varying stimuli, how they vary among themselves, how they vary from day to day with changing internal and external conditions—these are the facts that are basic to effective motivation. When the teacher or parent has a rich and varied environment from which to select stimuli, and does so with full understanding of the particular children who are to be influenced, motivation will be as nearly successful as it can be.

The problem of motivation in children.¹ It is difficult to control motivation of learning in children. They fatigue early, have no strong persevering sets, are easily distracted, are subject to many illnesses and diseases and hence to irregularity in attendance, they rebel at continuing to practice on mere symbolic forms, and are easily disturbed emotionally. By way of contrast adults are difficult to control in motivation of learning because they are so set in their ways and unequally trained.

It is clear that there are definite limits to the possibilities of motivation of children. We must expect to succeed for only brief periods; we must provide frequent rest pauses; we must not rely on motivation continuing long once it is well established, but must continually reinstate it; we can succeed only poorly in motivating work with meaningless symbols; we must expect emotional situations and illnesses to upset our plans.

CHILD NATURE AND MOTIVATION

With the recent interest in the processes of conditioning and in configurational behavior, the earlier belief that children have a rather definite, identifiable and permanent equipment of instincts, urges, or unitary tendencies to action has been undermined. The chief difficulties of those who hold to the instinct hypothesis have been, first, in agreeing upon the identity of the instincts and, second, in showing the relative importance of inheritance and learning in any particular instinctive action.

Instincts and emotions as motivators. There are several commonly listed criteria for the determination of the existence of a true instinct (or emotion).

1. Behavior appearing without opportunity for learning is instinctive. It is almost impossible to apply this criterion in humans unless the behavior appears at birth: even then the possibility of prenatal learning must be considered. Suckling, grasping, and crying are examples of behavior that may meet this criterion.

2. Behavior that is universal may be instinctive. Universal behavior is, however, difficult to find; there are always the so-called "defective" individuals who do not show the supposedly universal trait. Walking, eating, language (and even counting and simple addition) meet this criterion fairly well. It must, however, be borne in mind that such class names as *language* and *eating* include a multitude of more specific activities which may not be universal.

3. Behavior that appears in a definite sequence or at a particular developmental level in all children may be instinctive. For example, the cephalocaudal sequence in development of motor control has been mentioned in Chapter 4. Mating behavior has a particular sequence of development; but so have reading and arithmetic.

4. Where nonspecific behavior without opportunity for learning leads to the attainment of a goal that is essential to individual or racial well-being, it may be instinctive. In humans such activities cannot be found, since opportunity for learning is so universal.

Examination of the above criteria shows the difficulties in the way of proving the existence of instincts in humans (and also emotions as hereditary patterns), however strong the evidence may be in the case of some animals. To maintain as McDougall¹ does that the human mind has a number of inherited tendencies or purposes that are the essential motivators of human striving has, nevertheless, strong appeal to many, even though others find the evidence unconvincing.

Tissue and organic needs as motivators. Whatever we may think of the utility of the classic concept of instinct, it is clear that the human body has certain inflexible demands. It must have food, water, and oxygen; it must maintain its own temperature within narrow limits; it must eliminate waste products; it needs to eject products manufactured by its sex organs; it must eliminate drugs that disturb the chemical constitution of the blood; it must avoid mechanical injury.

These tissue and organic needs inevitably produce activity, partially specific and partially generalized. The activity is often very intensive and vigorous, hence meeting a major condition of effective motivation. Learning in relation to tissue needs does often occur quickly after the need comes into existence. It seems entirely proper to say that the need motivates, *i.e.*, energizes and directs.

This form of motivation is very important in infancy and

early childhood. The child learns to eat, how to eat, and what to eat because the hunger contractions in the stomach set up insistent and persistent stimuli. In the same way the child learns to drink, how to drink, and what to drink to relieve thirst; he learns about wearing clothing as protection, about shelter from the elements, and about control of processes of elimination. He learns much more slowly to avoid disease germs that produce fever, to secure proper ventilation in dwellings and workshops, to get sufficient rest and sleep, etc. Tissue needs originating in the sex organs do not become pressing until puberty. Since the motivation is strong and satisfaction usually cannot be immediate, these needs present especially difficult behavior and learning problems.

Tissue and organic needs as motivators of school work. Indirectly these powerful motives have great value to the teacher; to the parent they have primary importance, since the child has worked out the more direct adjustments to most of them before school age. They may be used to motivate the learning of self-care, social behavior, vocational activities, health practices and principles, mathematics, language, and, in fact, every kind of learning. When they come into conflict with custom, and they all do so at times, they create special problems. Sex is especially troublesome, in part because the basic adjustments cannot be fully worked out until after puberty, and in part because it meets with the most inflexible taboos.

The school use of tissue needs is usually through the indirect means of language or pictures. Study of the local water supply, for example, may be effectively related to the tissue needs of thirst and freedom from the pain of disease through the appropriate use of fiction and study of the causes of disease. This roundabout procedure at the same time weakens motivating values and makes it feasible to use them in the school-room. The basic teaching pattern seems to be as follows: words (assuming adequate vocabulary) remind the pupil of tissue needs, more words show the connection between need

and the new activity, thereby motivating it. Where the need is only weakly aroused, as is often the case, the motivation is weak; where vocabulary is inadequate it must first be built up; where the pupil sees another more appropriate (in his opinion) means of satisfying the need, motivation of the teacher-selected activity breaks down.

Showing the connection between tissue need and schoolroom activity seems to depend upon more or less indirect forms of reward or punishment. The pupil through reading and discussion is led to anticipate benefits or harm, dependent upon his course of action. As in all use of reward and punishment, the anticipated results must appear natural and inescapable; if they seem arbitrary and unjust, the pupil may be motivated to seek ways of avoiding them and fail to engage in the expected activity and learning.

Social needs as motivators. The first definite sign that the infant realizes the presence of another human being as a distinctive part of the environment occurs when the two-month-old infant smiles occasionally at the sound of the human voice when he does not yet smile at other stimuli.¹ At first smiling occurs with no relation to the expression on the face of the adult, but by eight or ten months the infant begins to be affected by the tone of voice and by facial expression. He responds to other children in much the same way as to adults. With this smiling response to the human voice, social motivation begins to be effective.

The first social contact of a baby is with an adult. It is the activity of the adult that initiates the contact. During the second half-year, contact with other children is established. At first, social contacts are initiated by others rather than by the child. The crying of the infant cannot be interpreted as social behavior even though it leads an adult to come and do something for him. He does, however, soon learn to cry for the sake of initiating social contact to provide for his physical

needs; by three months he will initiate social contact merely for companionship. By six to eight months he will try to attract adults or other children to him by squealing, by moving about, and by clutching at the clothing of others.

The causes of social contact in children are apparently: (1) physical need for help, (2) need for companionship in play, (3) interest in a common toy or plaything, (4) need for information or intellectual assistance, and (5) common intellectual interests. As the child develops in physique, motor ability, social adjustment, and intelligence the character of these needs changes, but they remain strong motivating agencies at all ages. It is clear, then, that the child becomes more and more social with increasing age, the number and variety of social needs increase, and social forms of motivation become more and more important. In short, whether because of maturation of inherent tendencies or in consequence of conditioning (learning) or both, the child becomes gregarious and is responsive to social stimuli.

Egotic tendencies as motivators. Social awareness and responsiveness are inevitably accompanied by antisocial tendencies and purely personal interests. The child plays with another because he is interested in the same toy, but he quickly discovers that the presence of the other limits his own freedom of action. The direct interest of the year-old child in a toy can hardly be called selfishness; it becomes selfishness when he feels the necessity of excluding another child from simultaneous enjoyment of it because of conflict of interests.

The child likes to feel that he can count on some things as being his own whenever he wants (needs) them: favorite toys, necessities of life, love of parents, friends and just treatment. This desire for security grows to a great extent out of social situations in which insecurity was found. The older brother begins to be selfish and to feel insecure when the younger brother reaches an age at which he appropriates playthings and deprives the older one of their sole possession. Learning to "share" is very difficult and disturbing to one's sense of se-

curity. Even a kitten raised alone will not fight for its food, but two kittens raised together will growl and quarrel over a plate of milk. Selfishness is an expression of insecurity and becomes "sharing" when the child discovers that personal security in toys is not disturbed but is enhanced by joint or cooperative play.

Prestige and preeminence as motivators. The small boy wants to be "big as daddy," or "bigger than brother." The little girl wants to "cook as well as mother" and to "be a little lady." Some of these desires seem all too fleeting to harassed parents, but the desire to emulate some childhood hero is an expression of a real need for personal aggrandisement and social approbation. The boy wants to be big, not just because daddy is big, but also because bigness carries with it certain highly prized privileges. When he is big he can drive the car all alone, can go swimming whenever he wishes, can earn money, and can do a host of other exciting things.

Whether desires for prestige and preeminence are conditioned or, as some believe, inherited, there can be no doubt concerning their motivating values. The child will misbehave to get the attention that he values—and sometimes the approval of playmates—but he will also do worth while things for the same reason. Doing for the sake of attracting attention or receiving approval easily becomes transformed into doing for the sake of satisfaction in accomplishment when situations are so managed as to minimize the purely personal results and emphasize the skill objectives. The five-year-old boy learns to hop to show off, and then does it because it turns out to be fun; he learns to read numbers because he gets praise and attention, and then, under good guidance, becomes absorbed in mastering number games. The sixteen-year-old boy plays basketball to show off his physical prowess, and then, with good coaching, discovers a more immediate satisfaction in the mastery of ball-handling skills. When those activities are suggested that are commensurate with the child's abilities, and when he is given moderate attention

and approval for his successes, he will usually end by gaining mastery in them and by doing them cheerfully for their own sakes. When they are found to function in relationship to a variety of his purposes, the new activities will become a permanent part of his life.

Collecting tendencies as motivators. Regarded by some as an inherited tendency and by others as a generalized habit, the desire to collect and own is a very real factor in the lives of children. The words *my* and *mine* are learned before two years, and the small child's possessions are vigorously defended against all comers.

Lehman and Witty¹ show that there are no age levels at which the interest in collecting and hoarding suddenly decreases or increases. Their data do not indicate a universal interest in such activities; at no age level were as many as fifteen per cent of the boys making collections of any kind, and girls made collections even less frequently. On the other hand, Burk² found ninety per cent of children actively making collections. The discrepancy in the findings of the two experimenters probably cannot be explained by differences in technique and suggests that interest in making collections is a function of the environment, although one that is easily developed. Where there are real educational values to be gained by making collections, teachers can set the stage and feel confident that many children will cheerfully respond, but mere reliance upon a universal collecting tendency would seem to be unwise.

ENVIRONMENTAL FACTORS IN MOTIVATION

As seen in the preceding section, no characteristic of children becomes a need nor functions in motivation except in relationship to a situation. By definition motivation implies stimulation. But just as it has seemed advantageous to treat

of some motivating factors as aspects of child nature, it seems likewise worth while to consider environmental patterns that are clearly related to motivation.

Newness and strangeness as motivators. Formerly, curiosity was labeled an instinct; certainly children often respond intensively to new objects and situations. The small child constantly picks up and points out new objects, asking, "What is it?" He sees a new activity demonstrated and wants to try it. He sees a pony for the first time and is attracted to it, but begins crying when put on its back for a ride. New objects and situations elicit avoiding as well as exploring behavior, but they are not neutral—that is, not unless they are so new and foreign to experience as to be unperceived.

The small child who throws a ball against a wall and, for the first time, *perceives* it to bounce back is likely to respond eagerly by chasing it and again throwing it against the wall for the sake of the rebound. He has discovered in himself a hitherto unsuspected ability to produce an intriguing environmental circumstance, which fits nicely into his existing play activity.

One child may habitually respond to any new article of food by saying, "I don't like it"; another may be eager to taste it. A major factor in the motivating effect of new and strange situations is found in the character of the child's perception of them. When the teacher makes use of this newness factor in planned teaching situations, there must be an adequate preparation in previous experience and attitude if favorable results are to be gained. Through previous attainment the child must be ready to perceive the new thing as fitting into his existing purposes of work and play.

Annoying situations as motivators—punishment. The child discovers, with more or less difficulty, that it is appropriate to withdraw from some situations. He touches a hot stove and pulls away and cries, or has his tongue burnt by a hot food and comes to dislike the food. But neither the stove nor the food is always hot, and withdrawal is not always appropri-

ate. However, the punishment administered by the situation is usually perceived as an objective function of it, and not as something arbitrarily interposed by another person. The intensive character of the response in annoying situations ensures relatively fast learning; the reflexive character of the response gives it direction; the contradictory character of the situation on different occasions requires discrimination and creates learning difficulties.

When the arbitrary will of another person determines the annoying character of the situation, the learning outcomes are made more uncertain because, with the punishing person absent, the situation may attract rather than repel, just as food when warm is good and when hot is harmful. When teachers or parents make frequent use of punishment for motivating avoidance of certain behavior, the child may be expected to perceive the annoyance as coming from the parent or teacher and not from the situation, and may learn to respond differently in their presence than in their absence. On this account "natural" punishments are rightly regarded as valuable motivators, while arbitrary ones do not get consistently good results and often have harmful effects. The child may learn to lie, cheat, deceive, and conceal to avoid punishment, and learn to act differently in the absence than in the presence of the taskmaster. When punishment can be interpreted as fighting against the child, he may well be expected to fight back, and the lesson goes astray.

Punishment as a motivating device, especially when severe, has the additional disadvantage of being a disrupting, fear-producing, disintegrating influence, leading to neurotic behavior and emotional outbursts.

The rightful function of punishment for motivation seems to be found in its value in *emphasizing* some aspect of the situation not otherwise perceivable which has *naturally* harmful consequences. This has been called "reduction of the problem to the learner's level of insight." The natural consequences of the behavior might otherwise be too long delayed, and the

connection might not be seen or might appear unimportant to the child at the moment. In general, punishment is justifiable if the child's later experience will certainly lead him to confirm by his own judgment the harmful character of the situation.

In short, punishment does intensify and direct behavior, *i.e.*, it motivates. It is, however, a double-edged tool. Thoughtlessly used it does great harm; great care and skill are required of its user for good results. Annoying situations that are natural are strong motivators, and their consistent character makes them relatively free from the bad results of arbitrarily imposed punishment.

Satisfying situations as motivators. Presumably the normal behavior in a satisfying situation is activity leading to satiety, followed by relaxation and sleep or change of activity owing to the appearance of another need. The end condition is one of general upbuilding and recuperation. Growth processes are favored. The activity that ends with satiety is vigorous and well directed to the extent that it is motivated by one of the needs referred to previously. The disintegrating forces that accompany annoying and fear-producing situations are absent. The child is confirmed in the behavior that satisfied the need if he has perceived the relationship between his actions and their results. Learning may therefore occur at one trial when appropriate actions are at once found and accompanied by full insight, or several trials may be required when the first efforts are not wholly appropriate or insight is poor.

The need that must be satisfied motivates specific behavior and defines a goal when previous experience has been adequate. Otherwise the need motivates generalized behavior with a minimum of direction. Once the goal has been defined, it seems a matter of indifference whether one says that a given action is motivated by the goal, by the satisfying situation, or by the need; each necessarily implies the other.

Certainly the general situations in which needs appear and satisfaction of them is attained are those in which well-

motivated, *i.e.*, strongly energized and specifically directed, activities are certain to be found.

Advantages and dangers in the use of especially provided rewards. I may ask my little son to bring in some firewood and promise him a penny for his work. I may commonly pay him for work about the home. The money reward will almost certainly be effective in securing the cheerful performance of household tasks. There is a rich experimental literature proving conclusively the effectiveness of rewards in motivating both behavior and learning.¹ Instead, however, of offering my son a money reward, I may say, "Won't you help me bring in some wood so we can have a nice fire?" When the wood is in we may lay a fire and together admire the pretty flames. This latter situation provides a very different kind of reward than the first, a "natural" reward. It will take care of itself without a parent's being present, while the money reward depends upon the whim of the parent.

There is good reason to believe that the kinds of learning in the two situations are very different. The child who is constantly motivated by rewards dependent upon the arbitrary dispensations of other people often learns to lie, cheat, deceive, and flatter to get rewards and learns to shirk when the rewards are absent. On the other hand, the natural rewards cannot be gained by lying, cheating, deceiving, or flattery, and are never absent when work is faithfully done. The fact that some natural rewards are social does not alter the main facts. To reward by saying "Thank you" for a kindness, or by giving friendship, does not usually motivate to deceit. Payment by parents for work done at home may help the home to run smoothly, but it is not uncommonly associated with lying, cheating, "apple polishing," and demanding special favors in school, and with shirking tasks that have no especially arranged reward. The school, of course, engages in many questionable practices of its own with its prizes, badges, athletic letters, and special privileges for high grades. The whole pat-

tern of rewards at home and in school needs careful study and revision.

Social situations as motivators. It seems necessary to consider four main types of social situations: (1) mere presence of other children, (2) joint play, (3) competitive play and work, and (4) cooperative situations.

1. We have already noted smiling as the first distinctive reaction to another human being. Before a year of age, the child displays himself before other children; he is motivated by the presence of another child to be more active, to take toys from the other child, to ward off attack, and to engage in joint play. On the other hand, some children are inhibited in the social situation. Allport¹ found that the presence of others is favorable to routine activity and to easy, conversational, and expansive thinking, while it inhibits imaginative thinking and original thought. Observers commonly report that children show off well-established skills before others but engage in flights of fancy and imagination more when alone.

2. The perception of another child motivates approach and contact, both verbal and physical. Talking, touching, and pushing are common childhood social activities, as is play with a common toy. During the preschool years social play cannot often be properly described as cooperative; it is play in the presence of the other person, play with a common toy, but includes very little of the notion of sharing and contribution to a group project. Play does, however, readily become competitive at an early age.

3. The two- or three-year-old child readily learns to strive to beat his playmates at simple play activities, dressing and undressing, and eating. He seems to care very little whether he wins or loses, but he likes the excitement of trying. He becomes interested in winning, however, as *rewards for winning* become more common and important. Competitive prizes at home and at school motivate the desire to win as something

more than the childhood desire to compete. It is not uncommon to see a three-year-old loser more happily stimulated by the competition than is the winner; the *adolescent* loser is usually disappointed. While there is usually a winner in competitive activities, the interest in competition precedes any great interest in winning and may be important at all ages.

There has grown up an extensive series of investigations of the effects of competition upon effectiveness of work and learning. In general, competition leads to more effective work; if the competitor is interested in winning he works well as long as he thinks there is a chance to win but slumps when he thinks he will lose. The most effective form of competition is that which provides for individual recognition in competition between groups; a close second is individual competition; and purely group competition is a poor third. The effects upon nervous and excitable children are likely to be bad. Girls are more affected than boys. Where the rewards of winning are important or artificial, all the bad effects associated with unwise use of rewards may be present and intensified.

It is important to see competition in relation to a social philosophy of education and not merely as a means of securing efficient work and learning specific tasks. Competitive attitudes and habits are developed when competition is used as a motive. To what extent are they socially desirable? To what extent do they interfere with cooperative attitudes and habits, and with ideals of service for the general social good?

4. Truly cooperative play, as distinguished from joint endeavor, is rare during the preschool period, but it may become more and more common during the elementary school ages. By the junior high school period, there is definite interest in cooperation which expresses itself in the formation of clubs and gangs. This tendency reaches its height in the senior high school, when group loyalty is especially intense. The ten-year-old *wants* to cooperate with others, but scarcely knows how to do so. The school may make use of this desire in motivating truly cooperative group work. Increasing interest and ability

in cooperative activities may be expected year by year unless the individual and competitive nature of school work holds these tendencies in check.

There are interesting and almost unexplored possibilities in using cooperative interests to overcome cheating, deceit, and self-interest. A student, for example, is found to copy the work of classmates, to lie about his accomplishments, and to demand special favors. On being set to work with a small group for the sake of making a group contribution to the class he finds himself in a situation where cheating and deceit are of no avail. The members of his group know directly whether he is contributing and let him see that they expect him to share in the work. His own contribution is merged with that of the group, and he sees no opportunity for self-aggrandizement except in the success of all. The motives for deceit disappear, and nothing except substantial work seems possible. The response is usually gratifying to the teacher. It is unfortunate that there has been no good experimental study of cooperative work. Maller's ¹ study, for example, scarcely touches upon real cooperation in which children think together and share experiences for the common good.

The teacher and parent as parts of the motivating environment. The child's elders have two major functions in motivation: (1) to set the stage with material and social influences, and (2) to take an important place in the social environment of the child. All those objects, materials, persons, and activities that a child is ready to perceive and act upon must be provided in due number and proportion. With increasing maturity, the scenery must be shifted and rearranged. As the child develops goals and strives to attain them, he must be encouraged, dissuaded, and advised; these are the special responsibilities of parent and teacher.

To know that the goal is good and to know whether one is progressing toward it and how rapidly are essential factors in

well-motivated work. To these ends the mentor must constantly devise informative measures. An abundance of experimental evidence shows that in the absence of knowledge of progress motivation becomes weak and progress lacking.¹ The day by day comments, "That's fine," "You're wrong there," "You will soon have it done," are invaluable motivators. More formal tests and examinations have a similar and more comprehensive informative value. Diagnostic measures show specific points of success and failure. To work with knowledge of success is encouraging, to work in the dark is disheartening. The teacher and parent are especially important sources of needed information about progress.

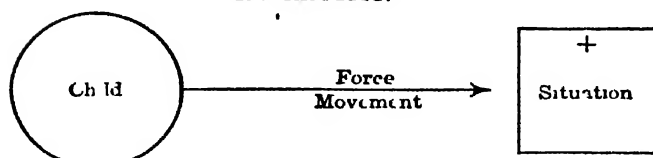
TOPOLOGICAL² MOTIVATION

Motivation may be defined in terms of stresses, strains, and movements in an enclosed relational field. There are fundamental dynamic relations affecting an individual and his environment; the actual behavior of a child depends upon both his own characteristics and the structure of the existing situation as he perceives it. For example, a child cries or does not cry when left at a nursery school by his parent, depending upon how he perceives nursery school and separation from the parent.

Motivational forces are defined by their direction, strength, and point of application. When faced with a situation to which he is sensitive a child begins a series of activities based upon the existing motivational forces. The following diagrams show a few of the possibilities of the operation of field forces.³

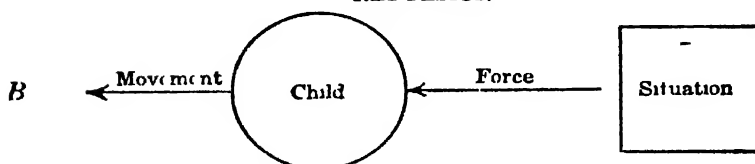
DIAGRAMS SHOWING SOME POSSIBILITIES IN THE OPERATION OF FIELD FORCES

ATTRACTION



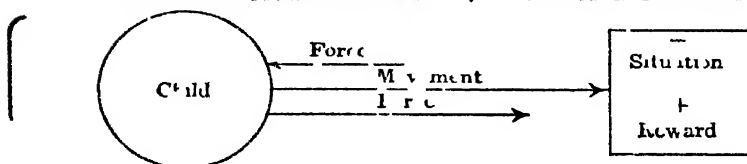
The child's activity may be in a straight line leading to identification of himself and the situation he is attracted to

REPULSION



The child's activity may be in a straight line away from the situation he is repelled by

DISTASTEFUL SITUATION + STRONG REWARD



C
(captivity)

DISTASTEFUL SITUATION + WEAK REWARD

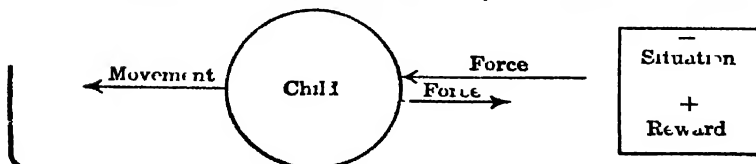
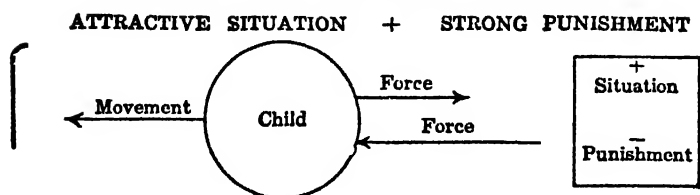
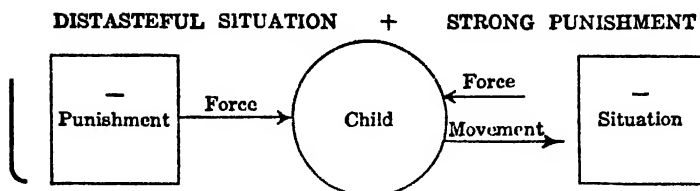


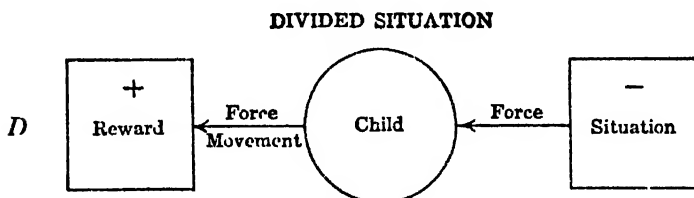
FIG 12



C



The situation may contain opposing forces, in which case the direction and force of the child's movement are determined by the resultant of the forces.



D

When the situation contains opposing forces, the child may succeed in separating it into its two aspects in such a way that he can flee the one and approach the other.

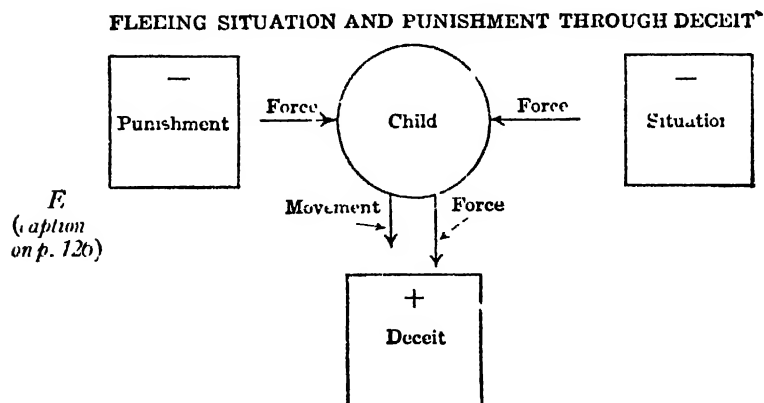
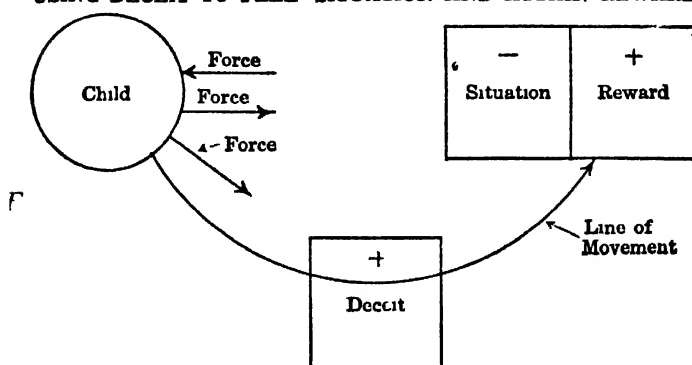


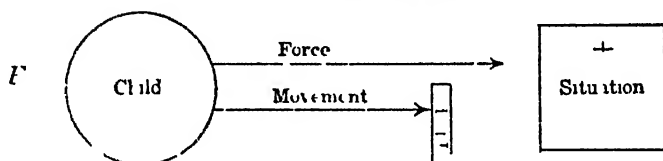
FIG. 12 continued.

USING DECEIT TO FLEE SITUATION AND ATTAIN REWARD



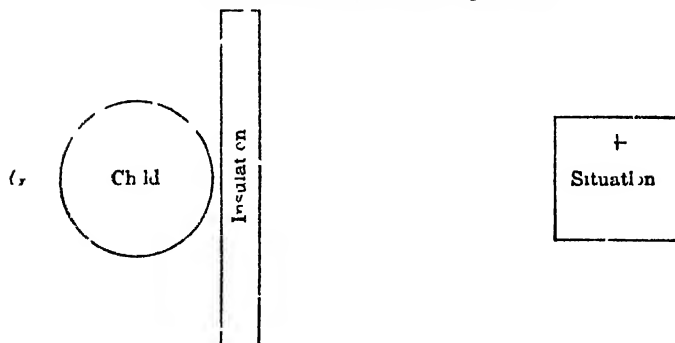
When the situation contains opposing forces, the child may be able to introduce a third force "deceit" acting at an angle to the other forces, thus escaping both situation and punishment or attaining a reward while avoiding the situation.

BLOCKED MOVEMENT



Forces may be adequate to initiate activity, but the movement may be blocked by other factors such as lack of knowledge or progress.

INSULATION AGAINST FORCES



The child may be insulated from the action of some forces because he fails to perceive the situation on account of ignorance, immaturity, preoccupation, or sensory defect.

QUESTIONS AND EXERCISES

1. Through the medium of what body structures must a motive operate to increase the energy level of behavior?
2. To what extent is the behavior of the neonate given specific direction and to what extent generalized?
3. What specific behavior patterns are produced by the tissue need for food in the year-old child? In the fifteen-year-old child?
4. What is the course of specialization of behavior which is motivated by the tissue needs associated with sex? Begin with the preschool child.
5. What is the course of development of specialized motives associated with sex? Begin with the preschool child.
6. What motives are involved in the following situation and how would you apply corrective measures? A high school girl has a good home. She has been paid for performing her household duties and works to the satisfaction of her mother. She seems well adjusted at home. At school she cheats on examinations, copies written work from classmates, expects special privileges from classmates and teachers, demands the best equipment and expects others to use the older articles, and brags about receiving only high grades, whereas she actually receives mediocre ones. Her I.Q. is 115. Her health is satisfactory. Her sex adjustment seems normal.
7. You have heard that collecting tendencies can be used in motivating junior high school general science; how would you go about using such tendencies, and what provisions would you make for individual differences?
8. What is the difference between "stimulus" and "motive"?
9. Develop a cooperative unit in literature for a grade level of your own choice carefully eliminating competition.
10. Make a list of the rewards and punishments commonly used by the school to motivate classwork. What evidence can you find concerning their effectiveness in attaining this objective?
11. Why are many schools discontinuing the practice of selecting a valedictorian?
12. What are the motivational effects of requiring a minimum scholastic average for participation in extracurricular activities?
13. Outline a form of report upon school attainment to be given periodically to pupils and parents that is designed to have maximum good effects upon motivation.

14. What are some good techniques that may be used by parents in motivating children in the performance of household duties?
15. What are some good rewards and punishments available for use in the home?
16. What can be done in the home to develop sensitivity to cooperative motives in only children?

Chapter 6

Language Development in Childhood

THE FUNCTIONS OF LANGUAGE

The language of children, as well as of adults, exists because of its value in satisfying a diversity of needs. It is an effective means of taking short cuts in behavior, of getting and giving secondhand experience. Grammatical, *i.e.*, logical, classification of words and sentences does not clearly show the human needs that are served by language. For our purposes, it is better classified into three broad categories: (1) language as a means of socialized communication, (2) language as an egocentric activity, and (3) silent language, or thinking.

Socialized communication and egocentric language. Investigators disagree concerning the exact proportion of children's overt speech that is social in character, but it is certainly much more than half social at all ages. Piaget ¹ finds that about thirty-eight per cent of the young child's language is egocentric and about sixty-two per cent socialized. McCarthy ² finds that socialized responses constitute ninety-six per cent or more of the preschool child's overt language. ³ She states that language is mainly naming, at first, with reference to the child's wants; but remarks associated with the situation in which the child is found increase with age, especially after

three years. Fisher¹ finds an increase in the number of remarks about others and in the number of questions up to the fourth year. A large number of commands are present at all preschool ages. It seems that many apparently egocentric statements can be highly socialized and serve a definitely communicative function. Probably almost all overt language occurs because of a need for social communication.

Silent language, thinking. It is well known that the very young child's language activity is mainly overt; everything that he thinks he says "out loud." His parents, however, object to his endless prattle. He learns that he must wait his turn to talk, that some things must not be mentioned outside of the family circle, that some of his ideas meet with disapproval. Suppression of overt language comes slowly but surely, a large part of language activity becomes subvocal before the end of the preschool years. This short-circuiting of language conforms to the familiar conditioning pattern. In the older child the endless stream of language activity is implicit, for the most part, and only occasionally becomes overt when the need for communication is pressing. Individuals, of course, differ greatly in the extent to which thinking processes are subvocal; some are talkative and others quiet.

As language becomes silent, it moves along more rapidly. Children gradually learn the economy and safety of thinking as opposed to talking. Only the mature products of thought are then communicated to others. As this development occurs, choice of words and use of effective language forms become more and more important, so that the brief products of long trains of thought can be effectively communicated to one's associates.

Kinds of language. While it is true that the development of abstract thinking is largely tied up with speech, it must not be overlooked that there are many forms of useful language symbols: speaking, writing, shorthand, Morse code, graphs,

pictures, numbers, gestures, diagrams, and maps. All are useful both for thinking and for social communication. The course of racial as well as individual progress is largely associated with the development of and facility in the use of a rich and varied symbolism.

PERCEPTUAL-MOTOR CONTROL OF SPEECH

Vocalization in infancy. The reflex "birth cry" has no intellectual or emotional meaning, nor does much of the vocalization of early infancy. Air used to supply the blood with oxygen makes a noise when pulled rapidly over the vocal cords. Varying tensions, blockings, and diverse positions of mouth and throat parts alter the quality of the sounds. That organic states such as hunger and pain produce characteristic tensions, and hence characteristic sounds, is possible. Bean¹ asserts that such is the case. Other investigators are in general agreement that varying situations do not produce qualitative differences, but only changes in intensity of vocalization.

There is general agreement that vowel sounds in considerable variety are first in appearance. These are closely followed by the *M* and *N* in combination with vowels. The *P* and *B* appear at about the same time. Gutturals, particularly the *G* and *K*, are sounded early, as is also the *H*. The *F* and *V* may be late in appearance. Some investigators place the *R* and *L* as the last sounds to appear, but others find them early. Moore² reports a child as using all sounds in the language by the fourth month.

It must be noted that the discussion here refers to the reflex sound production of infancy and not to the imitative production of recognizable words. For example, many children at three or four are still unable to imitate successfully words with the *R* and *L* sounds in initial position; "baby talk" is still common at six years.

Motor control of speech organs during the preschool years. The first step in language beyond mere reflex sound production apparently occurs when the infant begins to imitate sounds. As a part of the generalized reactions of infancy, air is expelled from the lungs, throat and mouth parts move, and sound is produced. The infant hears the sounds produced by his own vocal organs. Moreover, reduplication of behavior is characteristic of infancy and early childhood; apparently some kind of "set" for response persists, often for many minutes. Repetitive rocking and pendular activities, for example, are easily observable. Reduplication in language sounds is common. Continued production of "da, da, da" sets the stage for conditioning of the vocal "da" as *response* to the auditory "da" as *stimulus*. *The infant thus learns to imitate sounds.*

At any stage of language development we should expect the child's *intentional* production of acceptable sounds to be no more accurate and extensive than his repertoire of imitative sound production behavior permits. In any case, he apparently copies mainly the general pattern heard and can imitate details only after he has learned (been conditioned) to do so.

Possibly habits of language imitation are motivated, in part, by more generalized imitative tendencies. The child learns to imitate many types of behavior, and discovers that it is often worth while to observe others and try to do as they do.

DISORDERS OF MOTOR CONTROL

Travis¹ classifies speech disorders under three heads, only the first two of which concern us here:

1. Disorders of rhythm in verbal expression.
2. Disorders of articulation and vocalization.
3. Disorders of symbolic formulation and expression.

Disorders of rhythm—stuttering and stammering. These defects are basically the same, and in both the vocal defects are produced by speech blocks. Eighty-five per cent of stutter-

ing begins before eight years of age, and in ninety per cent or more of the cases disappears without special treatment. Fifteen to twenty per cent of children stutter at some time, boys greatly outnumbering girls. The percentage of children stuttering at any one time rises from about seven-tenths per cent in the first grade to about one per cent in high school and college. Hence, those who outgrow stuttering or overcome it as a result of special training usually do so at an early age.

The causes of stuttering are manifold. Heredity probably plays a part; brain injuries are contributing factors; infectious diseases, as measles and whooping cough, are associated with the defect; prolonged emotional excitement and emotional shocks may be followed by stuttering. Incomplete dominance of one cerebral hemisphere may be a factor. Stuttering has been variously held to be a bad habit, a personality disorder, and a psychoneurosis.

The treatment varies with the opinion of the practitioner concerning the cause. In general, curative measures aim at stabilization of the individual by all possible means. Judgment as to their success is difficult since so many cases recover without treatment and some cases do not recover with it. The stutterer needs most sympathetic understanding so that he may develop a wholesome outlook on life. This seems to be the best aid to recovery as well as the best procedure when the defect persists.

In general, the stutterer (and there are about one million of them, one-quarter being children) is retarded a year and a half in school. The stutterer is handicapped especially in oral recitation and in emotional adjustments. He needs special educational treatment and should respond well since his difficulty apparently has no necessary relationship to intelligence.

Disorders of articulation and vocalization. Voluntary control of the speech organs includes a very complex group of motor skills. They are learned with surprising rapidity in infancy and early childhood. It is to be expected, however,

that cases of delayed and incomplete development of skill will occur even when there is no organic handicap. "Baby talk," so commonly found in the first grade, is an example of incomplete learning due to unsatisfactory home training. Mental deficiency, short auditory memory span, and faulty training are the major causes of functional deficiency in articulation and vocalization.

Organic disorders affecting speech may be of the central nervous system or of the peripheral speech organs. Correct diagnosis and remedial procedures require the services of an expert.¹

Training procedures for correction of speech disorders, whether functional or organic, require specific applications of general principles of learning. In children with normal hearing and good imitative habits, the thing of major importance is to ensure that the child clearly and attentively perceives the correct sound, his own rendition of it, and the differences between the two. He must clearly hear the pattern to be imitated and detect his own shortcomings in sound production. It is not just repetition, but trial with understanding that is important in learning. Where good imitative habits are not present, no amount of teacher-presented stimulus words will be effective. The pupil must temporarily revert to something resembling the infantile babbling stage in which he attempts to produce, hear, and learn to imitate the sounds with which he has difficulty. The teacher aids by suggesting positions of lips, tongue, and other vocal parts to be tried out, and calls attention to successes.

When the cause for speech difficulty is defective hearing, other sensory cues must be substituted for sound. The imitative habits that must be developed and used will be such as copying visually perceived lip and tongue movement, tactually perceived throat and lip movement, etc. A new technique that needs investigation is one in which sound is thrown on a screen as visual waves, the pupil trying to produce similar

¹ See Travis *op. cit.* for a good discussion of organic speech disorders.

waves with his own voice. Teaching the deaf and hard of hearing to talk cannot be treated adequately here; the student must be referred to special treatises on the subject.¹

Handedness and speech disorder. There is a widespread belief that left-handedness is associated with speech difficulties, especially stuttering, and that change of normal handedness is a major factor in causing stuttering. Important studies supporting this hypothesis have been made by Ballard,² Quinan,³ Orton and Travis,⁴ and Oates.⁵ They find that dextrosinistrals stutter more commonly than nondextrosinistrals and that groups of stutterers contain abnormally high proportions of left-handed and dextrosinistral individuals. There is, however, an important number of dextrosinistrals who do not stutter and of stutterers who are pure sinistrals.

Wallin⁶ in a questionnaire study of 89,057 public school pupils in St. Louis found speech defects about twice as common among the left-handed and dextrosinistrals as among other children. The percentages were, however, small, and he concluded that the great majority of left-handed pupils did not develop speech defects even when taught to write with the right hand. Parson⁷ came to a similar conclusion after investigating the effects of a policy of training all left-handed pupils in Elizabeth, N. J., to write with the right hand.

We must conclude that change in handedness slightly increases the chances of occurrence of speech defect, but that the great majority escape harmful consequences. Whether the

causal factors are related to disturbance of cerebral dominia emotional conflict, or to other factors is not clear.

LEARNING WORD MEANING

Object naming. The 'major principles that the child follows in learning names for objects may be illustrated by the circumstances in which one eighteen-month-old boy was observed to learn the word *ear*. He had previously learned to name other parts of his body, especially "eyes," "nose," and "mouth," but had not used the word *ear*. One day his father pulled one of the child's ears sharply and said "ear." The child laughed. The father pulled the other ear and said "ear." He then caught the child's hands and pressed them firmly against his (the child's) ears and said "ear." The child was intensely interested and amused by the game. The father then pulled the child's ear and said, "What is that?" The immediate answer was "ear!" The name was never thereafter forgotten. The same child was taught to recognize another person's ear in a similar rapid fashion.

Whenever intense preoccupation with an object occurs in conjunction with clear perception of a specific sound that is understood to refer to it, the object name is learned almost at once. For this reason dogs are named "bow-wow" and kittens "mew-mew." Learning may be exceedingly rapid and surprisingly permanent. The writer (whose memory for peoples' names is poor) is constantly bewildered when his four-year-old son, after the lapse of several months, shows perfect memory for the name of some adult whom he has met only once, but *played with intensively* for a few minutes. Children commonly learn the names of interesting new toys after two or three promptings. The eighteen-month-old child may spend much of his time pointing at objects or holding them up and saying, "What-is-it?" or, as an alternative, "Who-dat?" Name vocabulary grows by leaps and bounds.

We may call it "conditioning" and draw illustrative diagrams, or "sign learning" and present cuts of child and ob-

jects, or "insight" and write of readiness and maturity levels; in whatever terms we describe it, naming is the first real and important fact of true spoken language as a means of communication.

Recognition of language. It is clear that the object-reference of perceived sounds is often understood for some time before the names are voluntarily produced; visual or other language forms are usually understood before they are voluntarily reproduced. All through life, comprehension of auditory or visual language exceeds ability to use language in speaking or writing. The ear is the primary language organ of childhood, and to it is added the eye during school age. The creative vocal organs and the writing hand always lag behind the perceiving organs.

Composition of vocabulary. For small children object names are not so much single words as whole sentences. The word *car* used by a twelve-month-old child may mean, "I see a car," "I want to ride in a car," "Where is the car?" "That's my car," etc. Object naming is, however, too simple a form of language to serve the child's needs during the second year. "See," "hear," "mine," the possessives "daddy's," "mamma's," "John's," and questions such as "What-is-it?" and "Who-dat?" are added to the name vocabulary early in the second year.

A minority of children learn activity names such as "see" and place names such as "there" as first words. The first word used depends largely upon the training, intentional or otherwise, provided by the parents or playmates.

Sentences of two or more words are formed before the end of the second year because mere single word naming, whether of objects, activities, or relationships, is no longer adequate to meet the more mature needs of the child.

The interrogative "Why?" appears much earlier than the explanatory "because" and is often intended merely as a stimulus to further conversation. It does not necessarily imply understanding of causal relationships. By the fourth year,

however, it seems clear that causal relationships are perceived and named in familiar, relatively simple situations.

At the two-year level, nouns constitute fifty to sixty per cent of the child's vocabulary, but many nouns have verbal function. As vocabulary increases, the proportion of verbs increases and that of nouns decreases. The interjectional character of early language is striking. Personal pronouns, relative pronouns, subordinating words, and connecting words are acquired late and are likely to be used in a highly individual way for some time. For example, a two-and-a-quarter-year-old boy said, "My and Daddy and Mamma and Me. . . ." The first person reference appeared twice and in a characteristically individual fashion. This same boy used *My* as the subject of sentences for some three months before changing to *I*. At two and a half years he used *I*, *my*, *me*, and *mine* with fair success. Zycv¹ found that in the conversation of third-grade children, nouns constituted fifty-one per cent of the vocabulary, but only fifteen per cent of the total number of words spoken. Adjectives, too, constitute a higher percentage of vocabulary than of words spoken. Verbs, on the other hand, represent twenty-two per cent of the vocabulary and twenty-seven per cent of the conversation. Pronouns, adverbs, prepositions, conjunctions, and articles form a higher percentage of conversation than of vocabulary.

The conversation of elementary school children differs from that of adults chiefly in containing fewer prepositions and conjunctions, more pronouns, and possibly fewer nouns. It differs from that of preschool children in containing fewer nouns and adjectives and more verbs, pronouns, prepositions, and conjunctions.

Size of vocabulary. Probably increase in size of vocabulary has positive acceleration at least during preschool and elementary school years. The 1937 Stanford-Binet scale, however, shows rectilinear growth in vocabulary from six to twelve

¹ Claire T. Zycv, "Conversation Among Children," *Teachers College Record*, 29 (1927), 46-61.

years. Figures taken from several investigators indicate that the first word appears at eight to ten months. The median vocabulary is two to four words at one year, twenty-two words at eighteen months, one thousand words at three years, twenty-five hundred words at six years, and fifteen to eighteen thousand words for the high school senior.

Growth changes in concepts and meanings. Estimates of size of vocabulary inevitably raise the question of when a word is "known." Certainly the child who, at six years, acceptably gives the meaning of *orange* is judged by lower standards than could be applied to the fourteen-year-old. In early childhood, a word has usually been regarded as known when a child can make any one of the many possible acceptable responses to it, i.e., use it in one of many possible contexts. It is clear that vocabulary growth has qualitative as well as quantitative aspects.

The growth of meaning of a word is essentially a growth in the number of contexts in which it may be used and to which it may contribute. It is not so much that a given word has a fringe of imagery, ideas, and the like joined to it more or less firmly as that it can enter fruitfully into many language or perceptual patterns. When a new ideo-verbal or perceptual-verbal pattern contains an old word, that word's meaning has grown; when a familiar ideational or perceptual pattern contains a *new* word, vocabulary has grown in size. An example may help to clarify the matter. When the visual perceptual pattern of orange becomes a pattern including the word "orange" (auditory and kinesthetic), a *new word* is learned.

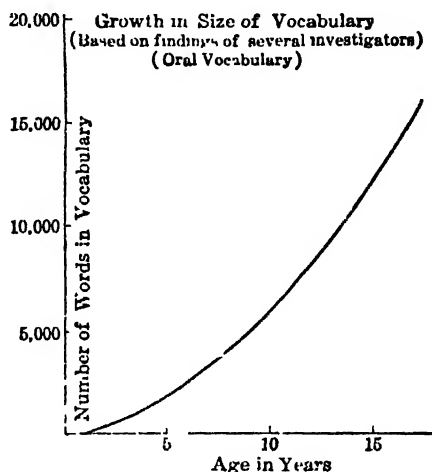


FIG. 13. Diagram showing growth in size of oral vocabulary

When the word enters other perceptual patterns based on handling, tasting, taking apart, cultivating, decay, etc., *meaning grows*.

GROWTH CHANGES IN LANGUAGE FORM

Length of sentences. The one word sentence stage of language has already been mentioned, as well as the two word sentence at two years. There is apparently a steady increase in length of sentences used up to four years. According to Smith,¹ the mean length of sentence at four years is four and one-half words. The superior adult may average twenty words to the sentence in serious discourse.

Sentence structure. During the second year, the single word (noun) sentence grows into the two-word sentence containing verb and noun. The adjective-noun and verb-adjective-noun combination have been observed by the writer near the end of the second year. The three-word sentence was observed to follow soon thereafter as: "Give Dickie ball" and "Dickie want ball." Early in the third year such statements and commands were complete with the definite or indefinite article, occasionally with a pronoun and one adjective.

A boy at two years and six months carried on this type of conversation. With great excitement, "Ball, ball, ball!" On being asked what he meant, "I want my ball." On being queried as to where it was, "Under the davenport." Asked why he did not get it, he replied, "But I can't; you get it for me!" His first highly emotional response was the infantile one word sentence, followed by more and more complete and complex sentences as the need arose.

Compound sentences of six to ten words, at first without and later with conjunctions, occurred early in the third year; and during the fourth year subordinating elements were common, as: "I want the ball that David has, and I don't want this

one." Very long combinations loosely joined by the word *and* were common before three years. These observations were made on a child of accelerated language development; but the general sequence probably holds good for all children.

Nice¹ describes the following sequence of development of sentence structure:

1. The single word sentence stage during the first half of the second year.
2. The two word sentence appearing by the middle of the second year.
3. The short sentence stage at three to three and one-half years; verbs not inflected, prepositions, conjunctions, auxiliary verbs, articles, and pronouns often omitted.
4. The complete sentence stage from four years on; the average sentence length is six to eight words; verbs are inflected; pronouns, articles, prepositions, and conjunctions are used.

The development of connected discourse of greater than sentence length has received little or no satisfactory study. We know that preschool children engage successfully in storytelling, but form and organization of children's stories have not been studied sufficiently. During school age, the development of longer discourse, whether oral or written, has not so much been investigated as *taught* according to the logical patterns of adult language, often painfully dissected. Recent practices in education, emphasizing as they do informal dramatic plays, storytelling, and informal topical reports, should eventually lead to a better understanding of the longer and more complicated language and thought processes of children.

THE DEVELOPMENT OF SOME SPECIAL KINDS OF LANGUAGE

We have earlier called attention to the fact that there are many types of useful symbolism. It seems desirable here to consider briefly the development of some special forms of language: reading, mathematics, foreign language, block building, and drawing

The development of reading and writing.¹ The two-year-old child who teases the parent to read a story, who likes to turn pages and look at pictures in books, has taken the first important step in reading. He has learned that books contain many interesting and exciting things. This line of development should continue until six or six and one-half years and lead to the ability to read and write a few of the more common and interesting words before school age is reached. Reading and writing seemingly go hand in hand. The writer's four-year-old son has learned to read all numbers up to 100 and to write a few of the easier digits. The two abilities appeared simultaneously. The number reading was learned because of interest in clocks and in the speedometer of the family automobile; writing numbers appeared spontaneously at the same time. Recently he copied the words SANTA CLAUS in recognizable form after asking to be shown how they looked. He had never previously shown an ability to read them. He is rapidly learning to write his name and some other common words *although he cannot read them* except as he learns to write.

Learning to read in school should be simply a natural continuation of the earlier interest in books, and it approximates that under recent teaching methods. Pictures accompanied by words and sentences, dramatic play, and games with an important written language aspect lead easily to beginning reading. Where the dissection of words into syllables and letters is not hastened but is allowed to occur over a period of years as a normal differentiation process, reading remains interesting and becomes more and more profitable.

Of course, reversals in reading and writing, lack of recognition of new words, and failures of comprehension occur in reading and writing as in recognition and production of oral language. Apparently they require drill for correction of the error less often than *simply continued reading* under favorable conditions of interest and meaningfulness.

Somewhere during the elementary school age, reading vo-

¹ See Chapter 4 for motor aspects of writing.

cabulary catches up with spoken vocabulary and then forges ahead. A major consideration at all levels of reading skill is, however, the background of direct personal experience that gives meaning to the word symbols. Vicarious experience through language is fine, but the attempt to build a heavy structure of words upon a slender basis of experience leads inevitably to failures of comprehension. The importance of field trips, excursions, laboratory work, demonstrations, maps, and pictures as a background for reading skill cannot be over-emphasized.

For a generation, the eye movement aspect of reading has received much attention. To date it is uncertain whether faulty eye movement is cause or result of poor reading habits. The literature is of interest to the research worker rather than to the teacher until more conclusive results are obtained.

Remedial reading has become a catchword. Its widespread development seems to be more a criticism of teaching methods in reading than to have positive values in its own right. The mechanics of skill, such as eye movement, eye span, and finger pointing, have been unduly emphasized. Comprehension has too often been treated *merely* as a reading skill rather than as a fundamental matter of general mental maturity based upon breadth of organized experience and oral language development. Lack of interest and habits of inattention have been treated not as *symptoms* but as *causes* of reading difficulty. The effects of generalized pace habits have not been recognized as factors in reading rate. Reversals have been treated as mysteries of the mind or of nerve functioning rather than as failure of development of discrimination of right and left or failure of the child to recognize the importance of such distinctions. In general, *symptoms* have been glorified as causes, and teaching effort has consequently been misdirected.

Orderly thinking underlies reading skill just as it does skill in spoken language; thinking skill conditions successful reading. Where the pupil of high I.Q. shows reading deficiency,

one must usually look to factors of motivation and opportunity rather than to the superficial conditions of skill.

The development of quantitative language and concepts. The child of two years shows the ability to use language to differentiate between singularity and plurality and between little and much. He names one object as *one* and a plurality of objects by a variety of names. One two-year-old child asked for "too much," "too many," "more," or a "lot" to express concepts of plurality and quantity.

During the third year, rote calling of number names in sequence may appear; the child learns to count verbally. At first, however, the meaning of the number names beyond *one*, *two*, *three*, and *four* is very vague. In counting objects he fails to coordinate his verbal activity with pointing or touching, and hence makes errors. A child counting *six* blocks may touch too rapidly and arrive at *four*, touch too slowly and arrive at *seven*, touch individual blocks more than once, skip some blocks entirely, etc. Within three or four months after learning to count by rote he begins to succeed very well in coordinating number words with touching or pointing activities. Whether the three-year-old child can count, how many objects he can count, and how accurately he can do so depend greatly upon his specific training in counting and not merely upon general mental maturity, although the latter is certainly a factor of importance.

By the end of the fourth year counting may be well established, and groups of two, three, or four objects may be given appropriate number names without counting; some children, however, seem especially defective in this ability. Numbers up to ten have fairly specific meaning; larger numbers are recognized as meaning simply "a great many," even though the four-year-old may count by rote up to twenty or even a hundred.

The parts of a unit are well known qualitatively at four years but not quantitatively. An apple is understood to have parts, as peeling and seeds, but the meaning of half an apple

is unknown. A unit is still quantitatively indivisible, at this age, although comparative words as *tall, short, big, little, old, young, much, many, more, all, and some* are freely used. By five years *one-half* may begin to have meaning, although it is likely to be used to refer to anything less than *all* of a unit or quantity. Perhaps it would be a correct description to say that any experience of the young child is at first unitary; then gradually *aggregates* of unitary experiences come to be recognized as pluralities, and not until the kindergarten period can unitary experiences be recognized as quantitatively divisible.

A child should enter the first grade with the concept of quantity and number, the concept of the divisibility units, and the language of number—*i.e.*, counting—well established. Thereafter the school's task is that of refinement upon these activities and application of them to a variety of experiences.

The sequence of development before and during school age seems to be.¹

1. Discovery of quantitative relationships in many situations—money, family size, toys, games, space, time.
2. Learning the language of quantity—counting, comparative words, fractions, algebraic symbols, etc.
3. Development of facility in the manipulation of quantitative symbols in problem situations.
4. Generalization of quantitative relationships abstracted from concrete problem situations.
5. Application of generalized concepts and processes to new problem situations.

The development of foreign language. Learning a foreign language presents fundamentally the same problems and follows the same patterns as learning the native tongue. Since the child is more mature, the whole process is short-circuited in many respects; the language learning problem is not complicated and delayed by the necessity for development of concepts.

¹ Modification of the instructional sequence given by Gertrude Hildreth, *op. cit.*, p. 169.

Imitative habits already exist to make the learning of pronunciation easy; on the other hand, conflicting vocal habits, especially serial habits and those set off by visual cues, lead to errors. The learner may have lost the ability to imitate sounds not found in his native tongue and be under the embarrassing necessity of reverting to the vocal play of childhood to reinstate them. The net result is usually comparatively rapid learning of a usable pronunciation but the indefinite retention of an "accent" that marks the language as foreign.

Foreign vocabulary may be built up *indirectly* by connecting foreign words with words in the native language, or *directly* by learning the foreign word in relationship to object or situation. The first procedure is faulty, since exact equivalents are often wanting and the constant intervention of the native tongue makes use of the new language less fluent. The second procedure is more difficult to use in the classroom because of the meagerness of the school environment. A combination of the direct and indirect methods seems most feasible and valuable in school situations.

Study of the structure of the foreign language is often erroneously supposed to lead to facility in reading, speaking, and writing the language. The better procedure, and one in line with current trends in instruction, seems to be to develop facility in the language first and then to study its structure as an aid to ironing out language faults. On account of the greater maturity of the learner, it is probably not desirable to follow strictly the sequence found in the development of the native tongue--first the one-word sentence, then the short sentence (articles, prepositions, etc., omitted), the complete sentence, the long complicated sentence, and lastly connected discourse. The direct method must apparently adopt this sequence to a considerable extent; the indirect method should depart from it, especially by introducing the reading of connected discourse. A combination of the two methods is probably the best school procedure; crucial experimental tests of learning techniques have not yet been made.

Drawing and construction as language forms. The development of construction with blocks and line drawings with pencil follows a growth sequence corresponding roughly with speech, and much the same functions are served by the activities. The first stage of development corresponds to reflex vocalization of early infancy. The child before a year of age picks up blocks, bangs them, carries them around. During the second year he places them in piles vertically or horizontally, and by two years, as an afterthought, gives names to his construction.

During the third year he names his constructions in advance and embellishes them with detail; by the fourth year he insists upon definite resemblance to real objects and becomes very impatient with the limitations of his material. However, he readily accepts suggestions to *pretend* that parts of his construction have the desired qualities. Play with blocks is a truly expressive (language) activity for the five-year-old child.

In play with a pencil the eighteen-month-old child makes marks with no regard for effects; by two years the marks appear in apparently meaningless *groupings*; by two and a half, names such as *head, feet, eyes, door, window* may be applied to parts of the drawing, naming coming after drawing. At three years the drawing may be named in advance, and parts may be named as they are added, although the whole is unrecognizable as referring to anything. By four or five years drawings have recognizable relationship to objects depicted and definitely tell a story. The drawings do not so much copy visual impressions as tell what the child thinks ought to be shown. For example, legs show through clothing, and a man is seen through the body of an automobile. They have the same functions of egocentric and socialized expression as speech.

The decline of interest in constructive block and drawing activity that begins for most children early in the elementary school period is undoubtedly associated with failure to master the technical difficulties of the materials and the gradual

substitution of other more easily controlled mediums of expression.

*RELATIONSHIPS OF LANGUAGE AND OTHER GROWTH
PHENOMENA*

Relationship to health and physical vigor. In early childhood, when growth direction is being established, variations in physiological condition probably produce more far-reaching effects than later in life. Differences in alertness and energy should be expected to affect language growth. Specific studies in this field are lacking.

Relationship to motor behavior. A major function of language is to provide a convenient substitute for other motor behavior. A sound, a gesture, a written symbol is used to replace a long and cumbersome overt bodily response. With increasing proficiency in language, other forms of bodily behavior may be omitted at times in the interests of economy of effort. For example, one may with satisfactory results "talk" about swimming movements instead of executing them.

Fisher's ¹ correlation of 0.86 between the use of things and talking about things is illuminating. It suggests that motor experience is an important background for giving meaning to language.

In considering the relations between language and motor behavior, it will be helpful to recall: (1) that language is itself a type of motor behavior, (2) that the body normally acts as a whole, and (3) that there is a focalization of behavior in such a way that only one main "activity" goes on fully at any one time. We can then understand Shirley's ² findings that vocal play is temporarily arrested at the appearance of a new motor act and that speech development

is slow at times when locomotor development is most rapid. The relationships between speech and handedness discussed earlier show that disturbances of generalized motor patterns may affect the motor aspects of speech.

There seems good reason to believe that the motor skills found in various language forms are positively interrelated and that they are positively related to other motor abilities. It is probable, as well, that amount of language activity is positively related to amount of other motor activity in childhood. It is certainly true that with advancing age language activity comes to be a substitute for other motor behavior.

Relationship to sex. Girls apparently develop language more rapidly than do boys. When compared with boys, girls are reported by various investigators to start talking at an earlier age, to use short sentences earlier, to use complex sentence forms earlier, to imitate words more correctly, to have more comprehensible responses at early ages, to have less nonverbal speech, to use more variable speech patterns, to have fewer speech defects, to stutter less than half as often as boys, and to have fewer reading disabilities. In all matters except speech defects and reading disabilities, boys later catch up with girls. In language scholarship, girls are superior to boys in elementary school, high school, and college. There are some reports that there are no sex differences in amount and rate of talking and that before the end of the elementary school period boys excel girls in size of total vocabulary.

Relationship to intelligence. It is generally accepted that there is a good positive correlation between measures of general intelligence and language ability. The commonly used intelligence tests make extensive use of language items. The correlations may therefore seem to be due to overlapping between the tests, but there is also the clear implication that language responses constitute a very important aspect of intelligent behavior.

The idiot has been defined as one who does not learn to talk. Feeble-minded children learn to talk later than normal

children ¹ and gifted children talk earlier.² Probably children who talk early are gifted, but not all who talk late are inferior in intelligence.

There is apparently a definite relationship between language development on the one hand and sex, status as twins, and socio-economic status on the other. Since these last three items are also related to intelligence, it is not entirely clear whether language retardation accounts for lower intelligence or *vice versa*. Probably the relationship is a reciprocal one; actually obtained positive correlations between I.Q. and language ability (speaking, reading, writing) are probably due in part to overlapping of test items and in part to a more fundamental relationship.

Relationship to environmental conditions. Investigators are in agreement that there is a definite positive relationship between proficiency in language and socio-economic status of the family. These differences are found in size and character of vocabulary and in structure of language.

The child with the broader and richer environment has a larger vocabulary, the increase consisting mainly of a larger number of nouns.³ Other parts of speech form a larger portion of the vocabularies of children in less favorable circumstances. The relatively constant environment permits the development of about the usual range of verbs, adjectives, adverbs, pronouns, and prepositions but restricts the number of nouns. However, McCarthy ⁴ found that children of the lower occupational groups retained in their language the relatively higher percentage of nouns that is characteristic of the less mature type of vocabulary.

Length and structure of sentence are clearly different for different socio-economic groups, the children of the upper groups being superior in all items showing age differences.

Investigators disagree as to the effects of age of associates upon language development. It is variously stated that second children develop more rapidly in language than first children, that the child who associates mainly with adults will be precocious in language, and that younger children hold older children back. Significant evidence comes from Day's¹ study of twins. Twins were found to be retarded in all aspects of language, and were not retarded in the more significant matters. The retardation increased with age from two to five years. She attributes the retardation mainly to motivation, the twin being able to gain satisfactory companionship from his co-twin whereas other children must look to a wider field of contacts.

The bilingual child seems to have a smaller English vocabulary than the monoglot but has a total vocabulary in the two languages equal to that of the single language child. It is generally believed that older children can handle two languages more satisfactorily than younger children and that bilingualism leads to lower intelligence test scores. However, more evidence is needed on this point.

QUESTIONS AND EXERCISES

1. How does language serve the social needs of the preschool child? The adolescent?
2. What are the egoistic needs of the child to which language is most closely related?
3. What are some of the major deficiencies of children's language in serving tissue needs? Why are these deficiencies greater than in the case of social and egoistic needs?
4. Give a cross-sectional picture of language at the three-year level. At the ten-year level. Compare the two age levels in terms of character and size of vocabulary, language structure, types of language, and effectiveness of language in meeting the child's needs.

5. What are the interrelationships between feeble-mindedness, handedness, and speech defects?
6. If opportunity can be found, teach a four or five syllable word to a four-year-old child. What seem to be his major difficulties? What are the chief errors that he makes?
7. Explore the meaning of the first five words of the revised Stanford-Binet vocabulary test for children varying in age from six to fifteen years. How would you characterize the changes in these concepts?
8. Explore the meaning of time words such as *minute*, *hour*, *day*, *yesterday*, *week*, *month*, and *year* for children varying in age from five to fifteen years.
9. Choose two common objects, such as an apple and a table, and explore the vocabulary descriptive of parts and fractions of them possessed by children of three to ten years.
10. How would you proceed to increase most rapidly the reading vocabulary of a high school child?
11. What are the major causes of inferior comprehension in reading in junior high school children?
12. Plan the activities that you would use in teaching, (1) by the *direct method* and (2) by the *indirect method*, the first day's lesson in a beginner's French class in junior high school. • Assume the normal classroom equipment.
13. How would you teach reading in a foreign language to beginners by the direct method?
14. Write a short paragraph describing a very cool midsummer day. Try to express the same idea by a pencil drawing. Can you do the same thing with wooden blocks? With bodily movement, excluding speech? How do you explain your differences in ability to use these mediums of expression?
15. Can you find reasons in other facts of growth that help to explain the sex differences in language development? What are they?
16. What are the causes of "baby talk"? What causes its persistence until six or seven years in many children? Compare the causes of this phenomenon with those of defects of high school pupils in form in spoken and written language.

Chapter 7

Emotional Development of Children

What emotions are. Everyone knows how it feels to be sad, elated, fearful, angry, delighted, and excited. Such conditions are called emotions. They are about the most familiar events with which psychology deals. Demagogues seek to influence crowds by appealing to their emotions. In *Julius Caesar*,¹ Shakespeare has given a dramatic example to show how demagogues have always made their appeals. After Brutus had justified the assassination of Julius Caesar, Mark Antony commenced to arouse emotions. Antony made no appeal to reason, he gave no cogent arguments. Like a modern dictator, he aroused people to an emotional frenzy. *Emotion* is a good word to use in naming such conditions, for it comes from the Latin *emovere*, meaning "to stir up." When a person is under the sway of strong emotion, he is often so stirred up that he becomes completely disorganized. Crimes of violence have been committed by people under the influence of powerful emotions.

In the fall of 1938, a group of friends were gathered by the radio to listen to the broadcast of a play. Suddenly they were dumbfounded to hear the announcement that men from Mars

¹ Act III, Scene 1. In reasoned prose Brutus convinces the Romans that the conspirators did a patriotic service when they slew Caesar. Antony's emotional appeals, which completely reversed public opinion, are Hitlerian in their effect upon the mob. An instance of how emotion may stifle intelligence is given in the next scene, where a band lynch the poet Cinna simply because he has the same name as one of the conspirators.

had invaded this planet. This dramatic news produced the most startling results among the group. Two members hastened to a near-by university observatory in order to look at Mars through the telescope. One called up several acquaintances in rapid succession to advise them to turn on their radios. When later in the broadcast an announcement made clear to the listeners that all the excitement was caused by the play itself and that there was no invasion by Martians, the friends laughed sheepishly at their own antics. All over the country scenes like this occurred. The threat of a new European war had made people susceptible to such rumors. A response like this one to the Orson Welles broadcast is an excellent demonstration of emotional behavior.

Not all emotions, however, are accompanied by a "stirred-up" feeling; hence the word is not invariably appropriate. At twilight the family may be sitting on the porch, enjoying the cool evening breezes. Peace, contentment, and affection for one another may be their emotions at such a time. *Emotion*, then, is a term broad enough to include stirred-up conditions and peaceful relaxation or contentment. Subjectively, there is no difficulty whatsoever about this paradox. The language is full of words to use in designating our awareness of such inner conditions as we conveniently group under *emotion*. We have words like the following: indignant, distressed, amazed, concerned, complacent, happy, pleased, and contented. •

Everyone has experienced many emotional reactions, but one of the greatest problems in psychology is to define and explain these familiar experiences. For at least fifty years psychologists have been engaged in the task of discovering just what physiological reactions accompany emotions, and the work is by no means yet finished. It does seem to be certain that differentiated bodily reactions do not accompany the separate emotions. Furthermore, a few sets of tennis may set up all the bodily components of a strong emotion, and yet the player may report that he is aware of no violent emotion at all. Expressive movements of the body and characteristic altera-

tions of the voice go with certain emotions, yet a skilled actor may duplicate all of them without feeling the appropriate emotion.

The genetic approach to the problem. One hopeful possibility in understanding human emotions is to observe how an infant reacts to different situations. Here the danger, of course, is that the observer may attribute to the infant certain emotions that the infant is not experiencing at all. If by some legerdemain a psychologist might be temporarily transformed into an infant for experimental purposes, and then report on his emotions in various situations, we could speak more authoritatively. The labels which we apply to infant behavior patterns must, therefore, be accepted for what they are worth. For convenience we shall have to use a few labels.

The genetic method is a simple procedure, but one which requires infinite patience. All during the days of infancy and early childhood, everything that is said and done must be carefully noted down. Various situations may be created in order to observe how the child behaves. Only a few complete records have ever been made on the development of a single infant.¹ Most genetic studies have been made upon groups of children observed at convenient intervals or during the hours of a nursery school.² The case history method is an attempt to reconstruct the life history of an individual by exhausting various leads.³ Case histories are substitutes for genetic accounts. Both the genetic study and the case history have contributed a great deal to our understanding of emotion.

The original emotions. From the time of Descartes¹ (1596-1650) to the present many philosophers have drawn up neat lists of supposedly inherited emotions. They have sought to demonstrate, in armchair speculations, how the original emotions are altered during the development of the individual. Modern scientific psychology has little patience with this vague theorizing. The modern method is to observe a number of newborn infants if we want to know what original emotions there may be. One of the first to do this was Watson,² who concluded that there are three original emotions—fear, rage, and love. Only two situations evoke fear, namely, loud noise and sudden loss of support. Rage, according to Watson, is brought on by holding the infant's arms or legs gently but firmly. The love emotion is elicited by stroking or petting the infant. This well-known study is now a classic in psychology and has served to stimulate many other people to investigate the problem.³

Sherman⁴ discovered that Watson had oversimplified infant behavior and had arrived at his conclusions too hastily. Once Sherman asked a number of people to judge what emotions infants were experiencing, but he did not permit them to know how the infants had been stimulated. He used such stimuli as depriving them of food, pricking them with a needle, restraining their bodily activity, and sudden loss of support. These judges differed markedly in the labels which

they applied to motion picture records of the infants' behavior. They could not agree in figuring out what stimuli had been applied to obtain the various emotional reactions. In another study he asked some trained nurses and other adults to identify infants' emotions from cries. Apparently it is impossible to recognize characteristic differences in the crying of infants and thus to identify different emotions. Sherman's critics point out, however, that the mothers of these infants might have been able to detect whether their own infants were hungry, afraid, angry, or in pain. As yet there is no experimental evidence to justify this criticism.

A more sensible way in which to observe infant behavior is to take into account the total situation. The observer should know as much as possible about the physical status of the infant. He should also be present when the stimuli are applied and note the resultant behavior. Bridges¹ has made some notable observations on infants from birth to a year and a half of age. She labels the one primitive emotion a condition of excitement. From this mass reaction, all the different emotions are slowly evolved. Overstimulation of any sort causes the infant to breathe and to move about more rapidly — *i.e.*, to become excited. Excitement, then, seems to mean a general heightening of the infant's activities. Hunger, uncomfortable clothing, or a pinprick are examples of the kind of stimuli which induce excitement in the newborn.

Bridges concluded that at three months of age the infant has two more emotional reactions — distress and delight, which have evolved from excitement. At the end of the first year, disgust, fear, and anger have been differentiated from distress, and elation and affection, from delight. From her careful observations she concluded that emotional behavior becomes gradually more specific and differentiated. Both the stimuli which elicit these reactions and the manner in which the infant responds undergo many subtle changes. The gen-

eral course of development is from the vague and undifferentiated to the specific. The rate of development is so slow that she found difficulty in determining the exact time when the new differentiated reactions emerged.

The normal, healthy, newborn infant usually sleeps from twenty to twenty-two hours a day. During his waking hours, there seem to be two different emotional patterns. The infant sometimes lies kicking, waving its arms, and squirming about. This condition is apparently not at all uncomfortable or distressing to him. It is a period of complacency, which occurs when hunger needs have been attended to and the clothing adjusted. No doubt the genesis of emotional patterns of peace, contentment, and serenity might be traced from this reaction. If, however, the infant is hungry or uncomfortable, the motor activity is heightened and crying ensues. Many parents have been kept awake night after night by a hungry infant. From these reactions by distressed infants one might trace the origin of the more violent emotional patterns.

It is much easier to trace the slow differentiations of emotional behavior during the early days of infancy than it is to analyze an adult emotion to its original basis. The reason is that emotional reactions are very complicated. About the only safe conclusion to draw is that all evidence shows that the infant's equipment of ruled emotions is limited. Social pressures increasingly effect modifications in these reactions; and more specific emotional responses become attached to a wide variety of situations. The physical development of the infant also appears to bring about many changes in those types of behavior which adults are accustomed to call emotions.

Emotion and motive. For convenience in description, psychologists write about the mental development of children under different topical headings. Thus we have in this text a number of chapters variously titled. Sometimes this procedure creates the false impression that mental life itself is made up of such entities as sensations, perceptions, ideas,

emotions, and motives. Nothing could be further from the real fact. The mental life is a unity. There is no sharp line of demarcation setting off one type of mental reaction from another. This essential unity is particularly evident when we observe the relationship between emotions and motives.

The basic motive of the newborn infant seems to be a drive to maintain or to regain the optimum physiological balance. Sudden noises, pain, hunger, or any other form of overstimulation upsets the balance, heightens activity, and brings manifest distress. When comfort has been restored, the young infant smiles, coos, relaxes, and finally goes to sleep. Hence we note that there is the closest relationship between emotion and drive. The stirred-up condition accompanies the upsets in physiological balance, and the relaxed emotions are identified with the restoration of the optimum balance.

Early in life, social stimuli begin to affect mental development. Since the mother is the person who usually brings about the restoration of complacency, her presence becomes a signal to release certain emotions. The young infant learns that its own complacency is dependent upon attentions given by her. Various objects also become identified with a growing range of satisfactions. One infant, for example, was taken for a ride in his carriage every afternoon after his nap. As soon as he saw his carriage upon awakening, he commenced to show indications of pleasure. He developed a daily routine which his parents had to follow. Any deviation seemed to upset his complacency, and he voiced his complaints in loud protests. When this little tyrant's motives were satisfied in the routine manner, he rewarded his parents by displays of contentment and affection.

Thus we note that the first emotional reactions are wholly nonsocial in reference.¹ They are identified with the infant's physical state. As the infant matures, these responses are tied

up to a growing complexity of situations. For a long time, however, the mental life of the young child is egocentric. The sole concern is to obtain or keep the condition of self-satisfaction. No observers have ever reported evidence of altruistic behavior in the infant. Altruism and sympathy¹ are the result of long experience. These refined sentiments are slowly developed as the child learns that greatest self-satisfaction depends upon behavior which brings satisfactions to other persons.

Ambivalence of emotions. Observations show that emotional behavior may quickly pass from one extreme to the opposite. If, for instance, a young child is delighted by the presence of many admirers, this elation is soon followed by emotional distress. Almost invariably, after a six-month-old infant has been cooing, gurgling, and smiling, there ensues a period of crying. This shift from one extreme to the other is called ambivalence. Young children who are playing happily together one moment may be fighting each other at the next. From a failure to observe this fact many neighborhood enmities have developed. Parents take up the quarrels of their children; and, since their emotions are more stable, they maintain hostilities long after the children have become good friends again.

Emotional ambivalence is by no means confined to young children. As everyone knows, no enemies are more bitter than former cronies who have had an argument. In plays, the heroine who begins by hating the hero usually ends by marrying him. Paul, the great persecutor of the Christians, became the great missionary of the church. Periods of elation are usually followed by dejection. Ambivalence is a technical term which serves to emphasize the instability of feelings and emotions. A boy may have contrasting feelings of love and hate for his father at the same time.

¹ McDougall, however, believed that even the lower animals have an instinct of sympathy and exhibit many signs of altruistic behavior. In a classic work, Kropotkin's *Mutual Aid in Evolution*, the argument is developed at length. Most contemporary psychologists find little evidence to support the opinion that altruistic and sympathetic emotions are inherited.

Psychoanalysts have attached great theoretical importance to the fact of emotional ambivalence.¹ Actually, however, emotional instability is nothing more than a simple characteristic of this sort of behavior. There is no justification for building up elaborate theoretical interpretations for a simple fact apparent to the most casual observer.

The fear emotion. In the animal world, fears have a real purpose. They protect the animal from dangers that threaten its life. In primitive times fears had purposive value for the race. Under the influence of great fear a primitive man might flee from beasts of prey or keep constantly alert for hidden dangers. Primitive fear is a powerful reaction involving a physiological upheaval.² Job, describing a nightmare (IV, 14, 15), said: "Fear came upon me, and trembling, which made all my bones to shake, . . . the hair of my flesh stood up." A considerable amount of research has been devoted to finding out exactly what physiological conditions accompany human fears. Modern civilized life seldom presents situations in which these primitive reactions are appropriate; hence a great deal of attention should be given in child training to the matter of fears.

About the only situations that evoke signs of distress in a young infant are overstimulation and discomfort. Any sudden, violent stimulus causes the breathing to be arrested and then heightened, the head to be turned away, and the pulse rate to be speeded up. Fits of spasmodic crying accompany these reactions. At about four months the infant displays signs of fear in the presence of strange people or in new surroundings. For experimental purposes some infants have

¹ For the psychoanalytic theory of emotional ambivalence, see Chap. II in Sigmund Freud's *Totem and Taboo*, and G. H. Graber's *Die Ambivalenz des Kindes*. Most psychologists find this concept of ambivalence to be based upon mere armchair theorizing and speculation.

² Charles Darwin's *The Expression of the Emotions in Man and Animals* contains descriptions of fear and other strong emotions which should be read by every student of psychology. Darwin was the first to break away from philosophical theories about emotions and to base an interpretation upon extensive observations.

been made afraid of indifferent stimuli. Suppose, for example, that the infant is to be made afraid of a favorite toy. The experimental procedure would be to make a loud noise behind the infant while he is playing with the toy. After two or three such experiences the normal infant will display signs of fear whenever the toy is presented.

The associates of a college girl discovered that she could be thrown into a condition of hysterical fear whenever they pursued her with a feather duster. Even the sight of feathers caused "goose pimples" to rise. She remembered very clearly that at age two she had been knocked down by a savage Minorca rooster in her yard. Even twenty years afterward, however, the sight of any feathers was sufficient to induce genuine fear. When the fear emotion becomes attached to an irrational stimulus like feathers, the reaction is usually called a phobia. Other people do not get a fear reaction when such a stimulus is presented.

Phobias are easily learned,¹ and they may disrupt chances for a happy life. Parents and teachers should be constantly on guard to note the signs of irrational fear reactions in the child. At age three, John listened with rapt attention to a story about the bogeyman. That night, when his parents told him to go upstairs and get ready for bed, John began to cry. When peremptory repetitions of the command increased his signs of terror, the parents began an investigation. John told them the story of the bogeyman as the ignorant neighbor had related it. Happily, John's mother remembered that the boy had long expressed a wish for a flashlight; so she at once gave him one. Then she asked him to look around upstairs and let her know at once if he discovered any "funny, old man" up there. Timidly, John ascended the stairs alone with his new toy; but bravely he looked into dark corners. At length he called down reassuringly, "The old man next door is silly, isn't he?"

Thus a phobia about darkness was eradicated at the outset.

It is far easier to prevent phobias from developing than to eradicate them once they have been learned. Experiments have revealed the efficacy of various techniques in eliminating phobias.¹ In one study, a young infant was made to fear a toy rabbit by making a sudden noise behind his head each time he started to reach for his plaything. Then the problem was to find out how the phobia might be eliminated. The method was to introduce the rabbit while the infant was eating. At first the rabbit was kept in the distance, but after forty sessions over many weeks the boy could once again take pleasure in his toy. An important point in this demonstration was that the phobia could be acquired in two or three sessions, but forty periods were needed to eradicate it. The corollary of this experiment is, of course, that irrational fears should not be allowed to develop.

The technique used here to eliminate the fear is called negative adaptation. The method is to have the fear reaction slowly diminish in strength because it is associated with a pleasant activity like eating. In training animals it is sometimes possible to achieve success merely by repeating the fear stimulus over and over. For example, a procedure in retraining a gun-shy pointer is to shut him up in a barn until he is hungry. Then, when food is presented, the owner shoots over the dog's head. For several days the dog may slink away from the food in abject terror, but at length he may be retrained so as to remain calm while the gun is shot off. With children this technique does not work very well. The preferable method is to obtain negative adaptation to the fear stimulus by associating it with a pleasant situation.

A young child who has learned to fear the darkness might be gradually relieved of his fear if the light in his bedroom were dimmed by degrees night after night. A more sensible

method would be for the parents to make bedtime a pleasant experience. Before turning off the light, the mother could tell a pleasant story or sing a lullaby. With older children, of course, other procedures may be efficacious. With very young children the best method is to associate the fear stimulus with something very pleasant in the life of the child.

Social influences often can be used in eradicating the phobias of older children. Eight-year-old Helen had had a painful experience in the dentist's chair and was terrified at the thought of going again. After long persuasion she was induced to accompany her mother to the office once more. As they awaited their turn, they heard deep groans from the inner office. Instead of increasing Helen's fears, the groans began to amuse her. When the door was opened and a large man stepped out, she laughed outright. The idea that so big a man could not act grown-up in the dentist's chair determined Helen to "show him up."

Frank also stood in terror of going to the dentist's office again. When he finally had climbed into the chair, he saw three schoolmates peeking under the curtain to watch the fun begin. Frank at once decided that they should witness his ability "to take it"; hence with forced grins he laughed off the dentist's queries, "Does it hurt?"

Self-confidence. In the development of the wholesome personality the most important emotion is the feeling of self-confidence. This is an emotional attitude built up by a long series of satisfying adjustments to difficulties. An excessively fearful child is unfitted for a happy, useful life because this feeling of self-confidence is absent. Two sorts of experiences seem to interfere with the development of a well-founded sense of self-confidence. In the first place, the child may be confronted by situations in which the only possible outcome is defeat. William had a pronounced speech defect, and the other children in the schoolroom laughed uproariously whenever he was called upon to read or recite. Hence William tried to make himself as small as possible in school to escape

being called upon. Mabel was too limited in intelligence to pass successfully the high school courses, yet she was bright enough to realize her stupidity. She dreaded the hour when school work commenced. In the second place, adults may judge the work of children by adult standards. Thus the development of self-confidence may be destroyed.

An inferiority attitude is the opposite of self-confidence. This attitude is organized around the fear emotion. In extreme cases an inferiority attitude may disrupt one's whole life, and in any case it militates against a happy adjustment. The signs of a developing inferiority attitude may be noted among primary school children. The child withdraws from associations with other children in order to avoid their criticism and to keep from having his own abilities put to the test. Sights, real or fancied, hurt him deeply. The young child may burst into tears, and the older lad endure his wounded feelings in silence. Needless to say, teachers should help the fearful child to gain in self-confidence. The procedure here is to afford the child opportunities for gaining success experiences. The only danger is that these children with inferiority attitudes may become too dependent upon the adult who provides them with chances for successes.

Of course, self-confidence may be built up on an insecure foundation. At the time when George was recovering from infantile paralysis, his mother died. George's father was quite wealthy and was determined to give his little crippled son everything the boy asked for. So from early childhood, nearly anything George asked for was given immediately. If he objected to a nurse or governess, she was dismissed at once. George was sent to the most expensive private schools, and then withdrawn as soon as he wrote about his objections to the school regulations. His father deliberately built up in this boy the attitude that he was superior to everyone else. The results of this sentimental upbringing were disastrous for George.

Overindulgent parents and teachers set low goals for chil-

dren to reach. Thus they develop unjustified feelings of self-confidence. Tyrannical adults also do great harm by making children afraid to attempt any task lest they fail or incur adult displeasure. Wholesome self-confidence is built up by guiding children to encounter an increasing range of difficulties appropriate to their level of mental development. The question arises, should children experience failure? Some educators believe that all children have a right to succeed and that in home and school adults ought to help children achieve success. Much depends upon the age of the child and upon the psychological history. Certainly, children who are in the process of developing inferiority attitudes need some immediate successes. Those experiences may help at once to build up confidence. Very young children do not seem to benefit by failures. With older children the situation is different. A few temporary setbacks may be beneficial if ultimate success is possible. It is important that the older children should understand why they failed and should be determined to succeed next time.

The rage emotion. Rage, like fear, is a powerful reaction which upsets the entire physiological balance. The angry person "loses his head" and sometimes commits offenses for which he must make lifelong expiation. Paul had been plagued by an older boy day after day at school. Once at recess when this boy started to tease him, Paul seized the heavy poker by the stove and swung it at his tormentor. Just in time the bully leaped aside as the poker demolished a desk. Years later Paul often shuddered as he told how in a fit of rage he had once almost committed manslaughter. Mildred became vexed when her cap pistol would not work and smashed it to pieces in anger. Many a golfer, disgruntled by a bad score, has broken a favorite club in a moment of petulance. Examples of rage could, indeed, be endlessly multiplied.

What we recognize as an expression of rage in the infant is evoked by any restriction of free activity. The older infant

makes purposeful efforts to break the offending article or to drive off the unwelcome person. Later on, any frustration seems to arouse heightened tensions. Goodenough discovered that manifestations of rage were displayed whenever the parents attempted to enforce routine habits upon the infant. During the early years of life the child frequently comes into conflict with adult prohibitions and with other children. These situations arouse the frustrated child to a more or less violent manifestation of rage. She also noted that children who had been indulged during periods of illness were more given to anger outbursts. Apparently, the indulgence had trained them to be very impatient of any frustrations.

The mechanisms of the rage emotion are well illustrated in the five-year-old who tried to put on a roller skate. At first this little girl made some trial and error attempts to fasten the skate to her shoe. It was, however, impossible for her to adjust the skate to the length of her foot. Therefore, she commenced to pound it on the sidewalk and to cry in exasperation. Some emotional tension might have helped her to figure out a plan for attaching the skate, but continued frustration effected a disorganization in her behavior. Another familiar example is displayed in the deportment of a college boy who could not readily unlock his door. At first, he twisted the key several ways; but when the door did not open, he commenced to lunge against it until he broke his shoulder. Rage is the primitive reaction to any physical frustration.

Later on, words, gestures, and other symbols become potent as frustrations. In vacation days many boys used to throw stones through the windows of the school building. In those times the school was a repressive, tyrannical institution in which boys were kept in order by coercive measures. Therefore, the school edifice itself became the symbol for frustration of normal desires. One of the great triumphs of modern education is that children now do not hate school.

Derisive epithets acquire symbolic potency to represent frustrations. Thus, on the school ground some lads can be

teased into a frenzy of rage by name calling. Shelley's associates at Sion House Academy discovered that they could torment the boy into paroxysms of rage by epithets. One schoolfellow afterward reported that Shelley would seize the first thing at hand—even a smaller boy—to fling at his persecutors.

Such a strong reaction as rage needs, of course, to be trained in suitable outlets. Normally, children learn the uselessness of temper tantrums as they grow older. These outbursts should be very infrequent by age five or six, though they often persist in attenuated form long beyond that time. One of the most ominous symptoms of faulty emotional development is found in the ten-year-old girl whose life was a constant succession of tantrums. At the table when some dish of food was not handed to her, even though she may not have voiced her want, she would often disrupt the meal period by a violent tantrum. Her vicious emotional habits led her to find perverse joy in frenzied destruction of several household pets. This girl later became an institutional case as a result of defective early training.

Are fears and rage of no use? By no means are all fears and all rage emotions valueless in the mental life of the child. Certain fears are about the most useful things any child could learn from parents and teachers. For a simple illustration, the child must be taught not to become familiar with strange dogs. Many other precautions against common sources of danger must be taught. The child must not cross the highway unless attended by adults or assured, by looking in each direction, that no car is coming. A powerful and worthy incentive, if wisely employed, is the child's fear of disapproval by respected adults if he acts badly. Social taboos and prohibitions are potent because we fear the consequences if we deviate from the approved pattern of behavior. Too much emphasis upon fear as an incentive, however, is not desirable. It is easy to teach children to act in certain ways by instilling a fear of consequences, but that is a negative sort of character

training. The ideal is to make the approved modes of conduct emotionally satisfying for the child.

Alice, for instance, had received "what her parents called "a good old-fashioned religious upbringing." Parents, clergymen, and Sunday school teachers had depicted a literal hell which awaited her in case she misbehaved in any way. After a particularly graphic revival sermon Alice was so frightened that she could not go to sleep. The awful punishment that would be inflicted upon her throughout eternity if she deviated from perfectionist standards was very real to Alice. In college she found that other girls did not share her views. After a period of great emotional distress, she announced that she had become an atheist and began to scoff at her childhood beliefs. Alice naturally confused religion and theology. She had been indoctrinated in theological views based upon the fear emotion, but she had no conception of the positive contribution of true religion. Some fears, of course, are necessary; but a system of child training, a traditional philosophy of education, and a program of character education, all based on fear, have no place today.

Even rage may serve a useful purpose if it is properly trained. Rage is, as we have noted, the first reaction to frustration. The tone of the whole body is raised for vigorous activity. Thus, some of this emotional tension may be directed toward overcoming the frustration. As the normal child grows older, the period of trial and error before the rage outburst is lengthened. Not only is there a delay in giving vent to rage, but also there is a great reduction in the amount of the rage itself. In connection with rage, the educational problem is to train children to direct the increased energy toward a solution of their difficulties.

An assignment in percentage was giving Jim much trouble. Either he had been inattentive while the teacher explained the problems or he did not understand how to obtain the right answers. Determined, he kept at work for twenty minutes, but without success. Thereupon he crumpled up the

paper, broke his pencil in two, and threw the book to the floor. Jim had passed beyond the point where guidance right then would have done any help. After his tension had subsided a bit, his father gave judicious aid. Psychologically stated, Jim's frustration tensions had slipped over from the problem solving attitude to a condition of emotional disorganization.

Young children learn how to endure frustrations in the give and take of play activities. Soon they discover that by losing their temper they alienate themselves from other children. Thus the emotional satisfactions which are afforded by playmates assist in reducing the vigor of rage behavior. Some children learn, however, that a fit of rage has great value in controlling the behavior of their parents. Parents often succumb to a child's temper fit and give him what he wants. Such children usually have a difficult time in adjusting to other children in school. Ideally, rage should be modified, both in the way it is expressed and in the stimuli which evoke it, until finally it becomes a sort of determined-to-succeed attitude when difficulties are encountered.

How emotions are studied.¹ In the days when psychology was a branch of philosophy, much was written about emotion. Each philosopher had his own neat list of human emotions and his own theory of interpretation. Contemporary scientific psychology has little patience with these archaic conjectures. The emotions of human beings are now investigated by controlled observations. One procedure which has been used in many laboratory investigations is to find out how well facial expressions reveal emotional reactions. Working with older children, Schultze² photographed various emotional reactions, and then had judges identify the emotions represented.

His results indicated that there are certainly recognizable differences in facial expressions. Landis¹ found that college students have become conventionalized in facial expressions of emotions; hence the mature adult expresses nothing more than the "polite affectations of a socially experienced person."

Some attention has been given to the voice as an index of emotional reactions. Common observation indicates that the voice becomes hoarse in anger, high-pitched in fear, and tremulous in excitement. The rapid speech of an excited child is a familiar phenomenon. Sherman found, however, that there are apparently no characteristic differences in the crying of the very young infant. Actors have done much to establish stereotypes in the vocal and the facial representations of the various emotions. Certainly an observer can readily tell whether a young child is laughing or crying, but there is no scientific evidence to indicate that unaffected vocalizations reveal any subtle differences in emotional behavior.

The word association procedure is a successful technique in studies of emotional reactions in children. The experimenter says, "I shall give you a word, and you are to speak the very first word you think of--whatever it is. If I say *night*, you might reply *day*, if I say *window*, you might say *door*." A standard list of words is used, and the child's responses are interpreted by reference to a table of common replies. Many of these words have symbolic connotations and reveal unusual emotional reactions. In more refined experimental investigations by the word association method, the psychologist notes the reaction time, the manner of replying, and the accompanying physiological reactions of the child.

A great many laboratory investigations of emotions have included the use of instruments to measure such physiological reactions as changes in blood pressure, breathing rate, and

heart beat. A considerable amount of research has been devoted to measurements of changes in skin resistance to small amounts of electric current. Electrodes are attached to two places on the skin, usually to the palms, and a weak current is passed through the child's body. Deflections registered on a sensitive galvanometer measure the changes in resistance. Pain, sudden noise, and withdrawal of the bottle are typical stimuli which induce pronounced changes in the three-month-old infant.

Guidance in emotional development. Though much research work yet remains to be done upon emotions, the importance of wholesome emotional reactions in personality development is firmly established. A hackneyed phrase emphasizes this point: We are specks of intelligence afloat upon seas of emotion. Any thoughtful adult must have often reflected upon the fact that there is a wide discrepancy between what we actually do and what we know we ought to do. How small a part calm deliberation plays in the regulation of human affairs is intrusively revealed by the front page of any newspaper. War, scandal, betrayal of public trust, outbreaks of race antagonisms, murders, and capital-labor conflicts—all these social phenomena illustrate the potency of emotional reactions in the control of human destinies. The great need for training young children in desirable types of emotional reactions is apparent.

On the part of adults, two unfounded emotionalized beliefs stand in the way of sane child guidance. First, there is the notion that heredity determines the growth of personality and that education, consequently, cannot accomplish much. Experimental studies have clearly demonstrated the fallaciousness of this view. When a boy turns out to be a juvenile delinquent, a convenient rationalization whereby the community escapes blame is to call him "a born criminal." Every case history of scientific merit shows, on the contrary, that faulty emotional training is the real explanation. A guiding rule for parents and teachers to follow is this: Never attribute

anything to heredity until after every possibility of environmental influences has been investigated. Secondly, there is the notion that parents and teachers had the best emotional training in their own childhood, and hence that children of today should be dealt with in the same manner. Only in recent years have conduct problems and emotional reactions been scientifically investigated. Recent knowledge has upset many traditional practices in child guidance.

Rousseau wrote that adults have made a sorry mess of their own lives and set the worst possible examples for children. Hence he would have Émile brought up apart from human contamination. Certainly, the adult who passes along to children the burden of his own emotional immaturities and disappointments gives the worst possible example. The emotional maladjustments of an adult are displayed as he strives to do two things: first, to maintain self-confidence by resorting to fictitious triumphs; and second, to escape from a realistic adjustment to social living in order to protect his self-confidence. Those responsible for the guidance of young children ought to be willing to undergo continual self-scrutiny and consciously endeavor not to pass along any undesirable reactions.

It would surely be helpful if we might at this point draw up a list of neat rules which could be memorized and followed in guiding emotional development. The problem is altogether too complicated for that. No two children develop in precisely the same way, not even in the same home. Scientific researches on emotions have brought out generalizations regarding the child in general, and a knowledge of these conclusions is essential for parents and teachers. Child guidance, however, is a matter of dealing with a particular child, not of applying abstract scientific generalizations. An eminent psychiatrist, in his days of bachelorhood, used to lecture parents on the subject, "The Ten Commandments for Parents." When he married and became a parent himself, he changed *commandments* to *suggestions*. Later, as he came to know inti-

mately the emotional problems of other sons and daughters, he destroyed the entire lecture.

Some pessimistic commentators on child training have written as though parents and teachers are involved in a race to keep children from going insane. Too much emphasis upon the pathology of emotions is, no doubt, most unwise. Child guidance should not be considered as a negative matter, the primary concern of which is to prevent emotional maladjustments. Far more important is the positive aspect, which lays emphasis upon giving the child desirable experiences. It is well established that emotions are profoundly altered in expression and in the situations which call them forth during the development of the child. Guidance simply means that adults have two obligations: first, to define the sort of emotional behavior children ought to acquire, and second, to provide situations in which children will have the chance to behave in those desirable ways. The institutions primarily concerned with the process are the home, the school, the church, and the community.

One of the great aims in emotional training is to develop a realistic feeling of self-confidence. By many guided experiences the child becomes slowly aware of personal assets and liabilities. He learns to develop the assets and to be reconciled to unalterable liabilities. He faces the difficulties of life in a problem-solving attitude, not by reverting to childish temper tantrums. Another great aim is to make the child increasingly self-reliant. Adults are flattered sometimes by training children to be more and more dependent upon them. No emotional training could be more disastrous. The child must be guided in the direction of emancipation from dependency. A third objective is to train children in getting along agreeably with one another. In a democratic social order, rampant individualism in the expression of emotionalized drives has no place. The give and take of children's play groups and of the public school furnish excellent training in adjusting personal idiosyncracies to social demands.

Training the aesthetic emotions.¹ Very little experimental work has yet been done on the development of appreciations and aesthetic feelings. Recent educational theory has, however, emphasized the importance of such training. It has been established that aesthetic emotions, like all other psychological functions, develop in slow, regular, predictable ways. Binet early found that children's ability to differentiate attractive from ugly line drawings of human faces is a measure of intelligence. In the latest revision of the Binet scale a test of this ability is placed at the level of four and a half years in mental age. Many experimenters have tested infants and young children on aesthetic preferences for colors. Fenton reports that she found only a single instance of pleasure over color in her own infant up to the end of his first year, and that was the occasion when he appeared to be delighted by her blue dress. Macaulay found that the average child has little apparent interest in style or color of personal clothing until age ten. These experiments do not indicate, however, that much might not be done to train children through aesthetic experiences.

Among the ancient Greeks great emphasis was placed upon the development of aesthetic feelings and attitudes. At the very outset of his education, the Greek boy was trained in rhythmical and expressive activities. The development of an appreciation for the beautiful was the cardinal objective in his education. Except in the "progressive school," modern education is distinguished for its emphasis upon utilitarian training through the mastery of a set curriculum. There are many indications, however, to show that more attention is now being given everywhere to the development of aesthetic emotions and appreciations through creative activities. Such training is necessary if increased leisure time is to be expended in satisfying, desirable ways. Hence the Athenian ideal of training for the enjoyment of life has been rediscovered.

QUESTIONS AND EXERCISES

1. Describe some occasions when you have observed a group of people "worked up" to a pitch of great excitement. What conditions brought on the state? How did these people look, and how did they behave?
2. Why should there be so much difficulty in defining *emotions*? Is it easier to define an *emotional response*?
3. What techniques are used by dictators in working their followers up to an emotional frenzy? How can people remain "level headed" when they listen to demagogues?
4. Do lower animals have emotions? Describe some examples. What definition of *emotion* is implied in your illustrations?
5. Why would it not be possible for an observer to keep daily records of the emotions of another person from birth to death? What part of the emotional reactions cannot be observed by another person?
6. Observe several young infants and note carefully how they behave in different situations. Under what circumstances do they seem to be "emotional"? Do you believe that the infant experiences an emotion of complacency as well as of excitement?
7. See whether you can judge an infant's emotion from its crying or other expressive activity when you do not know the cause for this behavior. Does the infant's mother believe that she can tell by the crying whether the infant is hungry, in pain, uncomfortable, or just "exercising the lungs"?
8. Make up a record form for an educated mother to use in writing out her observations on the emotional development of her infant. Explain the purpose and value of each topical heading you would include.
9. If it is true that most of our emotions are learned, what educational implications would you draw from that fact? Are all undesirable emotional reactions consciously learned? Give some examples.
10. Describe some adult fears that are undesirable. How would you advise a fearful adult to rid himself of troublesome fears? How would you prevent young children from developing such fears?
11. Describe the behavior of a child with an inferiority attitude, one with too much self-confidence, and one with a well-balanced attitude of self-confidence. How do these attitudes develop?
12. If you were a play director, how would you instruct the mem-

bers of the cast in depicting the following emotions: rage, surprise, terror, elation, and despair? In real life do people display their emotions in these ways?

13. How would you deal with temper tantrums in children? Plan a program for children of different ages. How can the primitive rage emotion be trained to serve a useful purpose in adult life?
14. Mention some of the dangers in an excessive concern for the wholesome emotional development of children. Can adults be oversolicitous? What might be the effects?
15. Describe some behavior problems that have their origins in emotional maladjustments. How do emotionally maladjusted adults affect children? Give some examples.
16. Contrast the effects of a school which emphasizes subject matter mastery in the earliest grades with one which attempts to utilize children's creative abilities. Which type of education would do more to train aesthetic appreciations? Why is it important to train children in aesthetic emotions?
17. Become familiar with the following technical words and give illustrations for each.

a Complacency The emotional condition when there is a maximum of physical well-being and a minimum of tensions.

b Excitement In the infant it is a condition of heightened activities induced by discomfort, pain, hunger, or any other form of overstimulation.

c Frustration Any form of blocking constitutes a frustration and tends to arouse excitement.

d Optimum physical balance The condition of physical health which ensures normal growth. When the balance is lost, the infant struggles and becomes tense. When it is restored, the infant becomes contented and finally goes off to sleep.

e Self-confidence A learned pattern of emotional behavior whereby the child is eager to be challenged by frustrations in order to overcome them. The antithesis of self-confidence is the attitude of inferiority.

f Stimuli That which evokes a response. Sudden loss of support, for instance, is a stimulus for fear. A complicated pattern of stimuli is termed a situation.

g Symbol Any situation that becomes representative for another. A schoolmarm's birch rod may be a symbol to induce fear in the group before whom it hangs.

h Symbolic frustration A word, gesture, or object may stand as the representation of a situation in which one was made to feel inferior or humiliated. The child who sticks his tongue out at another may be said to use symbolic frustration on his adversary.

Chapter 8

Mental Growth in Children

Between insects and human beings there is so wide a gulf that it seems difficult to compare them. One of the greatest differences, however, often escapes notice. From the moment of birth, insects are more or less successfully able to maintain existence. They are in no way dependent upon the care of parents. All the behavior mechanisms that they require to adjust to the business of living either are present immediately after birth or appear in the process of maturation. No conclusive scientific evidence has been presented to show that insects are capable of learning. Human infants, on the other hand, are the most helpless, dependent creatures in all nature. Without the solicitous care of adults, no human infant could long survive. Every mode of behavior that is characteristically *human* about us is learned.¹ The biological significance of the prolonged term of infancy is that it makes possible a profound modification through environmental influences. Insects depend upon heredity for their behavior mechanisms; human infants are educable.

Mental equipment of the newborn infant.² John Locke (1632–1704) wrote that the mind of a newborn infant is like

¹ This argument has been developed in John Fiske's classic essay, *The Meaning of Infancy*, Houghton Mifflin, 1883, 1902.

² For accounts of unlearned behavior, see the following references:

G. E. Coghill, *Anatomy and the Problem of Behavior*, New York, Macmillan,

W. Dennis, "A Description and Classification of the Responses of the New Born Infant," *Psychol. Bull.*

M. Sherman, I. Sherman, and C. D. Flory, "Infant Behavior," *Comp. Psychol. Monog.*

a blank page upon which experience writes. Although the newborn infant is, of course, helpless and dependent, there are many behavior mechanisms already in operation. Examples, apparent to any observer, are signs of distress when the infant is uncomfortable, starting at a sudden loud noise, swallowing when food is given, shifting the head so as to breathe freely, and grasping an object placed in the hand. The maintenance functions, such as digestion, circulation of the blood, elimination, and respiration, function from birth. Sneezing, hiccoughing, moving the limbs about in random fashion—these are also familiar illustrations of unlearned behavior. Such reactions are termed *reflexes*. A reflex is a rather definite unlearned response to a specific stimulus. In addition to a number of reflexes, the infant tends also to respond “all over” to certain forms of stimulation. Such behavior is appropriately called *mass activity*.

Not all unlearned behavior mechanisms are present at birth. A striking example is the blinking reflex, which does not ordinarily appear until the infant is three or four months old. Ability to creep does not develop until about seven or eight months. Muscular coordination is another familiar example of behavior primarily dependent upon the achievement of physical growth. Exercise, of course, facilitates this maturation.¹

From the psychological standpoint, three unlearned characteristics of infants are all-important. First, the infant is able to attend to certain forms of stimulation. On the third day, for instance, Arthur's eyes followed the movement of a watch dangled before him. At four and a half months he would look intently at the “Tinker Toy” placed in his hand. Secondly, the infant is set to make responses to certain forms of stimulation. In some situations the responses take the form of specific reflexes and in others, of mass reactions. Development through growth and experience tends to make these responses more

specific and differentiated. One infant indicated a generalized response to a noise on the fourth day, and in the fifteenth week he turned his head definitely in the direction of any noise made in his room. Thirdly, the infant is able to learn. Even in the first few days of life George seemed to adjust to a routine of sleep, feeding, and baths. By the ninth or tenth week he would open his mouth and display signs of eagerness whenever his mother placed a towel under his chin, as she always did before giving him drops of orange juice. If the infant were incapable of receiving and responding to stimuli, and of acquiring new modes of responses, there would be nothing of what we call *mind* or *mental development*.

The infant furnishes many examples of the way acquired modes of behavior develop from unlearned reaction tendencies. The simplest types of learning take place in connection with activities related to feeding and physical care. Frank learned in the tenth week to find evident pleasure in his bath, and two weeks later he displayed signs of glee when he heard his mother filling the tub. On the eightieth day he first indicated conclusive signs of pleasure when, upon awakening from an afternoon nap, he saw his baby carriage. These commonplace illustrations are cited to indicate the tremendous importance of learned reactions in the life of the infant and to suggest how the breadth of experience becomes enlarged.

Nearly every infant acquires a few stunts which parents like to show off. The relative ease with which these little stunts can be learned and altered is a distinctive characteristic that separates the human infant from lower animals. A familiar instance is the ability to "pat-a-cake." Untrained observers may believe that the infant "understands" the request, "Pat-a-cake." Such, however, is not the case, and the true nature of these little stunts must be noted if we are to comprehend mental development. This is nothing more than a mechanical sort of trick, such as many lower animals can be taught. Usually the mother claps the infant's hands as she says, "Pat-a-cake." There is no reason to believe that these

sounds are anything more than a meaningless jumble of auditory stimuli. Every time the infant hears the sounds his hands are clapped by his mother. Finally, the command becomes a signal for the infant to start patting his hands together. Genuine comprehension of the meanings of words is a high'y complicated psychological achievement dependent upon physical development and many experiences.

The measurement of intelligence. The capacity to respond to stimuli and to acquire new types of behavior is called *intelligence*. Individual differences in intelligence are indicated by the ability to adjust to new situations. One mother reported that her infant would sometimes get his thumb in his mouth while feeding, and until his seventh month she had to remove it and insert the nipple again. At this age, however, he began to make purposively adaptive movements to hold his bottle and no longer confused thumb and nipple. This is a homely example of adjustive behavior to meet the demands of a situation. In a game of "return," the dog's owner threw the stick over a fence in which one picket had been broken out. The dog ran through the gap, picked up the stick in his mouth, and started back. On coming to the fence, he could not get through with the stick held lengthwise. After many efforts the dog dropped the stick and came through alone. Repeated urging could not induce the dog to shift the stick so as to drag it through. Thus the owner realized that he had raised a stupid pet that could not adjust his behavior to new situations.

A great deal has been done to develop techniques for measuring ability to adjust to novel situations. After an intensive series of observations of many infants, Gesell published summaries of normal development at various intervals of age. These serve as a guide in determining whether an individual child is developing normally. In 1900, Shinn¹ published a

¹ Millicent W. Shinn, *The Biography of a Baby*, Boston, Houghton Mifflin, 1900. See also her two volumes entitled *Notes on the Development of a Child*, Berkeley, University of California Press 1893 and 1899.

series of observations upon the increments in adaptive behavior normally to be expected at various age levels of development. In an elaborate and detailed report Fenton¹ has described the emergence of adaptive behavior in her own infant. Gesell's work,² however, supplied the impetus to the development of tests of infant intelligence, and research workers have drawn heavily on his observations. The plan of a test is to present a situation or an object to the infant and to interpret the response by comparing the infant's reaction with an inventory of activities which normally appear at certain age levels in the average infant.

If, for instance, we wanted to construct a test for children two and a half years of age, we might proceed by first noting Gesell's summary for that age. He observed that at thirty months of age the average child will do the following things: (1) go up and down stairs alone; (2) pile seven or eight blocks with coordination; (3) try to stand on one foot; (4) copy vertical or horizontal line; (5) point to seven pictures; (6) mark twice for a cross; and (7) give his full name.

Of course, these activities by no means exhaust the repertoire of behavior at this age level; but they do indicate significant, typical reactions to be expected of the child. Next, we should work out a number of situations in which we could present the individual child with opportunities to display his ability to behave in ways suggested by Gesell. Our directions should be explicit and always given in the same way to every child we test. We should have to make out a plan for scoring that would leave nothing to our momentary caprice or indulgence. Then we should try out our little test on a number of children at or near the age level of two and a half.³

Our test of normal intelligence of thirty-month-old children might finally take this form:

1. John, I want to see how well you can go up to the top of the stairs and come down again.

2. Now pile these blocks up to make a big tower.

3. Can you stand on one foot? Let me see you do it while I count to ten. Stand on your right foot. (Here we might discover that the average child at this age does not know the difference between *right* and *left*. If so, we should have to experiment on older children to find out just when this direction can be understood.)

4. I want you to take this pencil and draw on this piece of paper lines exactly like those on this card. (The child would be shown a card with a horizontal and a vertical line. If we wished to complicate the test, we might permit the child to look at the card for ten seconds, and then reproduce the lines from memory. In that case we should have to find out at what level the average child can pass our little exercise.)

5. Now, John, I am going to show you a card with some pictures on it. I shall call out the names of the objects, and I want you to put your finger on each one. (We give the child a card with pictures of such objects as a ball, a tricycle, a cat, a house, a spoon, an automobile, and a hen. Perhaps instead of pictures we might use metal toy reproductions of these objects. Certainly, we should not expect adult definitions. Experience would indicate to us the type of answers the average or normal child should give.)

6. I am going to draw a cross. You watch me, and then I shall ask you to draw one for me.

7. What is your full name? (If he should reply, *Johnny*, we should say, *John what?*)

If we had time and opportunity to try out these tests on many children at this age, we might then be called in as experts by parents of thirty-month-old infants to ascertain whether their offspring meet the standards. We could go further and establish tests for other age levels. Thus we could

place the behavior of an individual child by comparing his responses with the age level of average children who do equally well.

Educated parents often ask whether tests have been worked out for the measurement of intelligence in babies and young children. One of the best tests for the first year of life has been developed by Bayley.¹ It is made up of 115 test items arranged in order of difficulty and permits the examiner to derive a score indicative of the rate of mental development. The most authoritative and elaborate test, the 1937 Stanford revision of the Binet-Simon intelligence scale,² is suitable for use with children from two years of age upward. For testing young children the examiner needs a rather expensive outfit of material, and he must have had highly specialized training in administering the test. For general use in making interesting observations on the rate of mental development, Gesell's normative summaries furnish the best available standards.

Individual differences in intelligence. Extensive use of scales for the measurement of intelligence has shown that marked differences exist among children and adults. Although no two psychologists would quite agree on a suitable definition of intelligence, they certainly do agree that all human beings differ greatly in the amount of intelligence they exhibit. When we find that the majority of children at a given age level can do certain things, we call that behavior *average* or *typical*. Some children who are younger can apparently do these things just as well, and some older children cannot do them successfully. These children are *abnormal* or *atypical*, terms which mean nothing more than that they deviate from the average. Of course, there are relatively few children who deviate on a given test which can successfully be done at their age level. For instance, nearly all children can join two words together in a meaningful sentence by the twenty-first month.

A very few at a year and a half will be able to say, *Daddy go, I eat, or See me*; and only a few will be unable to phrase sentences like these at the twenty-seventh month.

To determine the status of a given child we have to find out how his abilities compare with the whole group. An amazing letter written by Francis Galton just before his fifth birthday illustrates this point. "My dear Adele," he wrote to his sister, "I am four years old and can read any English book. I can say all the Latin substantives and adjectives and active verbs besides 52 lines of Latin poetry. I can cast up any sum in addition and can multiply by 2, 3, 4, 5, 6, 7, 8, 10. I can also say the pence table. I can read French a little and I know the clock. Francis Galton. Febuary [sic] 15, 1827." Only one child in millions would be capable of writing such a missive on his fifth birthday. From this letter, as well as from further evidence, it is concluded that Galton was twice as intelligent as the average child at his chronological age.

At the other extreme of the scale, we might find such an instance as this. When Mary was asked to draw a picture of a man, she cheerfully began to work. The meaningless scrawls on the paper, however, were no better than those of the average child at three years of age. Although Mary was physically an adult, she was placed in a state colony for the feeble-minded because of her lack of intelligence.

In school the teachers constantly judge the intelligence of pupils in terms of ability to master the curriculum. Some children understand explanations very well the first time the teacher presents them. Other children may require special instruction after school or at home in order to keep up with the class. Bob, for instance, vexed his teacher because he never took any books home. He found the fifth grade so easy that he could prepare all the assignments during the study periods. Of course, the teacher should have required more work from Bob than she did from the other children in her room. Tim, on the other hand, became surly and rebellious because he

found that, even though he had been "kept back," the other children outstripped him in the lessons. One of the basic requirements of guidance is that parents and teachers recognize the importance of individual differences among children and adjust the amount of work expected accordingly.

The constancy of intelligence. Some people believe that later on Tim might suddenly wake up and do just as well as other children and that Bob's obvious superiority would be lost. In interviews with parents of backward children, teachers often hear the hope expressed that, "In high school my son will really get a new lease upon life," "Lots of children don't become intelligent until after adolescence," or "All my daughter needs is better teachers than you." Sometimes, of course, these parents are right. Emotional difficulties often cause the timid child to appear unintelligent. The adenoidal child, sitting with mouth open and with blank expression, may be misjudged as stupid. Whether the child who is actually stupid can ever be "awakened" is another matter. A few years ago the answer would have been a categorical No.

Before discussing some of the studies made upon the constancy of intelligence, we should note carefully the existence of a condition known as *pseudo feeble-mindedness*. The term is somewhat pedantic, but the condition which it denotes is very real. Pseudo feeble-mindedness means the appearance of alleged symptoms of intellectual inferiority in a person whose actual intelligence is at least average. Childhood diseases, tyrannical adults, or a series of humiliating experiences may cause such serious emotional handicaps as to make a child appear to be stupid. The case of the eminent Father Shields¹ is an illustration. Even his own parents branded him as a moron, and until he reached seventeen years of age he had done little to make them alter their opinion. Then he suddenly awakened intellectually and commenced to earn aca-

demie distinctions. No doubt, when a child who hitherto has been a misfit in school amazes parents and teachers by high accomplishment, the retardation was not caused by handicaps in the development of real intelligence. Emotional maladjustments may, as in Father Shield's case, be at the basis of the apparent stupidity.

The value of measurement of intelligence depends upon how well any given score will predict what score might be earned on a retesting at a later time. If, for example, a child makes a high score at age four and a low score at age ten, the predictive value of the test is *nil*. A very practical inquiry is, therefore, to determine the relative constancy of test scores on children of different ages. Many psychologists would have answered this question dogmatically a decade ago by saying that evidence shows only a very small fluctuation. Now the whole matter is being reconsidered. Reports of the older studies are being re-examined, and new investigations are under way. Thorndike ¹ has pointed out that the amount of fluctuation varies with the interval between the two tests of a given child. In one year the average change is 5.32 points, and in nine years 9.34. Gifted children, according to some investigators, fluctuate more markedly than average or dull children in intelligence test scores.

There seems to be evidence that large changes in intelligence levels may occur during the years preceding entrance to school. Wellman ² discovered on many retests that some children make large gains in intelligence. Under proper environmental stimulation, it appears, the pattern of mental

growth may be appreciably increased. Skeels¹ has reported that foster children of average intelligence may, when adopted into good homes, be lifted to the level of "superior." At the present time, there is considerable controversy over such findings. The traditional notion of constancy in intelligence is still held firmly by many persons. Perhaps one reason for such changes as do occur lies in the fact that our tests of intelligence require a good mastery of the language. In homes where the parents are well educated the child has an opportunity to acquire facility in language. Likewise, in good nursery schools and kindergartens the child is given training in the sort of activities which are incorporated into many of our intelligence tests. As we now measure intelligence, we may, therefore, say that an intellectually impoverished environment tends to lower scores and a stimulating environment to raise them. Whether this fact means that actual intelligence is affected thereby is still in the realm of controversy.²

The history of the intelligence test movement in the United States is one of the most brilliant chapters in psychology. It is a record of steady progress in the development of measuring devices and of achievement in investigations. The attempt to devise scales whereby, in a single test period, an entire plan of education may be mapped out for an individual child would certainly deserve encouragement by parents and teachers. In actual practice, however, many persons have lost sight of the fact that intelligence testing is essentially a scientific experiment. Unfounded generalizations, dogmatic assumptions, and unscientific attitudes have done much to destroy confidence in intelligence tests as they are now used and interpreted. Unfortunately, some people have taken a fatalistic

attitude toward the problem of mental development. They assume that, since intelligence is fixed by heredity, education can do little or nothing for the child. The real fact is that no one has yet demonstrated the limits to which the average, healthy child might be lifted by the use of ideal guidance techniques in the home and at school.

Some educational problems. Few adults would be so rash as to say that they are using their own mental powers to the limit. Most would frankly admit that they have never developed the habit of constant intellectual growth, clear thinking, and energetic activity in self-improvement. For parents and teachers, one aim is to make children more efficient in the use of mental powers. Hence we seek to devise schemes of education which will make children turn out to be a great improvement over the present generation of adults. Through the development of a science of human behavior, education has made great progress in recent years. Though the ideal procedures in education are, of course, still unknown, the new understanding of mental development has innumerable educational application in the home and the school.

First, we now know that mental development cannot be forced in hothouse fashion. When rapid successions of achievements are forced upon the growing child, the results are disastrous. William's father, who had been dropped from college for low scholarship, determined to make a prodigy of the boy. Almost from birth William was given 'educational' toys. His father took delight in having three-year-old William give the Latin names of a few familiar objects. Being an average lad, William did learn a few amazing tricks which his father liked to have the neighbors witness. Instead of hearing fairy tales and legends, William was brought up on a heavy schedule of reading. His mother read to him only the sort of material that might inform his mind. In the first and the second grades the teachers often called upon him when visitors were present. Soon, however, the other children had learned as much as William, and his initial advantage was entirely lost. His "under-

standing" was nothing more than a general mental confusion plus a few tricks which his parents had taught him to show off.

In babyhood the primary concern ought to be with the physical health and growth. No mental achievements should be forced. Of course, the infant should have an opportunity to acquire many different experiences and thus to expand the intellectual horizon. Precautions must be taken not to overstimulate the baby and to develop fears. Within a very few days the healthy infant becomes adjusted to a regular schedule of feeding, sleeping, rides in the carriage, and times of "play" activity. Gradually the baby learns to attach meanings to various phases of his environment and to achieve some muscular coordination.

In the second year some purposeful instruction may be given. Simple habits of physical control may normally be acquired. Various objects may be employed to develop a knowledge of colors and shapes. Again the caution is not to force development in any way. Unless the activity to be taught has a relationship to the normal development of the child, it ought not to be introduced. Jane, for instance, could repeat the alphabet shortly after her second birthday. When she gave a demonstration of this feat, in which she needed only two or three promptings, the circle of visitors was invariably impressed. Such an ability is, however, of no value at all. In the modern school children are no longer introduced to reading by the a-b-c method.

The value of nursery schools for young children has been conclusively demonstrated. In these schools the child has opportunities to gain in breadth of experience. The situations in which experiences are presented to the child are controlled. The child learns many words and acquires facility in handling various objects. Since many measures of intelligence include similar materials, the nursery school child often shows up to great advantage. Walsh ¹ reports that nursery schools bring

gains in initiative, ability to talk, agreeableness, sympathy, and orderly care of playthings. The advantage of early adjustments to other children is obvious, and in this sort of training the nursery school child has experiences not available for the only child who is brought up among adults. In short, we know that the best way to educate young children is to provide them with widening opportunities to learn. Nursery schools and kindergartens furnish such opportunities. Conversely, the wrong way to proceed is to attempt to force development.

Secondly, we now understand that in any program of education we must provide for the individual differences that exist among children. Scientific investigations which are based upon large groups of the population lead to the development of generalizations about human behavior. Thus we gain in knowledge of the "average man." Actually, however, no such person as the average man exists. Intensive studies of separate individuals show that no two are quite alike, and often great differences are found. Careful observations indicate that even young children differ markedly in the variety of experiences which they have had and in their habits of behavior. Even twins brought up in the same home do not have identical experiences in all particulars. The conclusion, therefore, is that in educational practice we must always adjust the situation to fit the particular child.

Mr. Allen enjoyed reminiscing about his elementary school days. Each session, he said, the children marched into the building in military fashion. When the teacher gave commands, they seated themselves, with folded hands, like little automatons. On the order, "Open desks. Remove geographies. Close desks," each child acted routinely. They were as well trained as a group of precision dancers. Then the teacher conducted the recitation. Those who could not answer or understand the questions were directed to remain after school. Other subjects were dealt with in the same way, until at length they were permitted to march out for dinner. Mr. Allen reported that his teachers assumed that all children are alike.

Slow learners were the victims of sarcasm or punishment intended to make them learn more readily. The teachers seemed to believe that rigorous mental discipline would have the same effect upon the minds of children as physical exercise has in developing muscles. As Mr. Allen used to say, "The teachers thought that the more we hated school, the more benefit were we deriving from it."

The contrast between this sort of school and a modern school is great. Now, the child's stage of mental development and his interests furnish the center around which the school program is organized. By means of various tests, supplemented by careful observations, the teachers discover how best to plan a program for each separate child. Of course, many habits must be developed in common. Children have to learn the amenities of social living in a democratic group. Rampant individualism in behavior is anarchy. Furthermore, in the modern school the child is not allowed to "express himself" through momentary impulses of no educational value. The school is a situation controlled by intelligent adults who know what sort of experiences children ought to have and who understand how to direct the children toward the enlargement of experience. The aim of the modern school is to foster the maximum amount of mental growth in each child and at the same time to provide experiences in social living. The spirit of modern education is that the process should be one of direction and guidance rather than of autocratic coercion and repression.

Factors related to mental growth. All studies indicate a very close relationship between a child's performance in tests of intelligence and the socio-economic status of the parents. In a monumental contribution by Terman, this fact has been definitely established. Brilliant children are far more likely to come from "comfortable" homes than from poverty-stricken areas. In general they live in the superior neighborhoods rather than "across the railroad tracks." Observant teachers have always conjectured that such would be the con-

clusion; hence they have been interested in measures taken to raise standards of living among the population. Proper food and adequate medical attention, playgrounds, splendid educational advantages, and a sense of security from economic strain—these are some of the advantages of most children who make rapid strides in mental growth. The conclusion from these facts is plain. Advantages now enjoyed by the fortunate children must be supplied by the community for all children.

At present there is a great deal of interest in the question of racial differences in mental development.¹ On many of our present tests of intelligence some races make a relatively poor showing. The existence of actual differences in test scores has led some people erroneously to draw the conclusion that there are innate, biological differences in the rate and the extent of mental development. The myth of Aryan superiority is said to be taught in the schools of some nations. On this question scientific research has supplied the answer. First, scholars do not agree upon the meaning of the word *rate*. Secondly, there are no differences in test performances which cannot be readily accounted for by differences in life experiences of the racial groups tested. Inequalities in economic and cultural advantages, no doubt, account for disparities in school marks and intelligence test scores. Not until all children, no matter what their race, enjoy the same opportunities can we determine whether there are innate racial differences in mental development.

We should not, however, become too optimistic that all differences can be ironed out by education. Certain types of feeble-mindedness are obviously rather hopeless as far as educability is concerned. Here the problem is to give as much concrete practical instruction as the children are capable of receiving. There is no reason to hope that there is any educational hocus-pocus whereby an idiot may be made into a genius. Until recent years, however, many people took a

fatalistic attitude toward the educability of average children. That attitude certainly has been changed as a result of new investigations. The impetus given by heredity to the mental development of the child cannot, perhaps, be much affected by environment. The concern of parents and teachers, however, has to do with factors in development that may be altered. We may safely conclude that limits of achievement are nearly always pseudo limits for the normal child. Hence the immediate task is to devise methods for increasing the level of achievement for all children.

QUESTIONS AND EXERCISES

1. Describe the behavior of some organisms that appear to be incapable of learning anything. As we ascend the scale of life, we note the lengthening of infancy. What is the meaning of infancy?
2. Observe the behavior of the youngest infants available in your neighborhood, and describe types of behavior that seem to be unlearned. Find some examples of reflex behavior and of mass activity.
3. Use the Gesell normative summaries in observations of infants at various levels of development, and describe your findings.
4. Compare the "tricks" which very young children have learned with the performance of trained animals. Is there any difference? How do children learn these tricks?
5. Make a careful study of a good test of infant intelligence. See, for instance, *A Scale for Measuring the Mental Development of Infants during the First Year of Life* by Harriette-Elise Linfert and H. M. Hierholzer. Try it out with available infants and report on your results.
6. Become familiar with the Stanford revision, particularly with the portions of the scale for children up to age twelve.
7. What is intelligence? Read and report on Chap. I in P. L. Boynton, *Intelligence: Its Manifestations and Measurement*.
8. Are *intelligence* and *mental development* synonymous? Explain.
9. Explain why it is just as important to interpret a child's performance on an intelligence test as it is to report the score earned.
10. Compare two children of approximately the same age and point out the ways in which they differ. If possible, compare

two brothers or sisters. Of what significance for education are these differences?

11. Map out educational programs to be followed in the home and at school for the following types of children: a very dull boy who at eight years of age cannot yet read, a four-year-old boy who has picked up the ability to read some simple words and who can scrawl his first name on paper, and a normal, healthy boy who in kindergarten does not seem interested in his teacher's efforts "to get him ready for the first grade."
12. Look up in the *Dictionary of Psychology* (Boston, Houghton Mifflin, 1934), and redefine in your own words, *intelligence*, *intelligence quotient*, *maturation*, *mental age*.
13. Research indicates that the rate of mental development varies with the socio-economic status of the home. What are the social implications of these findings?
14. What may be the effects of the "new education" and modern knowledge about mental development upon the children of tomorrow?

Chapter 9

The Learning of Children

THE IMPORTANCE OF LEARNING

Compared with other newborns, the human infant is utterly helpless, unable to understand his surroundings and to respond appropriately to them. The human infant must learn to adjust to its environment. For example, the young of many species of animals are able to swim at birth, but he is an unusual child who learns this feat within five years. At birth the human infant already has a developmental history of approximately nine months. Before birth he has learned a few responses to environmental stimuli.¹ Obviously, the human infant does not start at zero when he is born. The change that birth occasions is an arrival into a new environment, not the commencement of the life stream. The change is somewhat like a graduation; a graduate does not become a new individual, but he goes into a new environment.

In order to continue his existence, the child must learn to make adjustments to the many stimuli that continuously affect his body. Immediately after birth the breathing process must start, and, of course, it cannot stop during his life span. He must now carry on the physiological processes necessary for the continuance of life. He must also learn how to get along in the external, complex environment into which he is born.

¹ E. B. Holt, *Animal Drive and the Learning Process*, New York, Holt, This difficult but important book describes a system of psychology based upon prenatal development. It suggests how, for instance, the grasping reflex is developed in the fetal stage of life history.

SENSORY AND PERCEPTUAL LEARNING

From birth, the child interacts with his changing environment as a total personality. He deals with his environment through his senses and by his powers of feeling, memory, imagination, intelligence, and reason. His proper development implies that he should be treated always as a total individual, not as made up of separate parts.

Since the child is ready to respond to his whole field of environmental stimuli, learning is fundamentally a matter of perceiving. True, there must be sensory experiences of the world, but the learner must so analyze and organize these experiences that the proper adjustment to the perceptual situation will be made. Sensations do not exist as isolated phenomena; they are "part and parcel" of the total pattern. Nevertheless, by directing our attention to sensations, even though they be abstractions, we may gain in understanding the learning process.

Many avenues for receiving impressions are opened by birth. Gradually the infant becomes consciously sensitive to the elements of his new environment. Awareness of such sensations is the beginning of consciousness. At an early age the infant learns to turn his head toward a voice that soothes him and away from a harsh noise. Among the earlier conscious acts is a control of vision so that a moving person or object may be kept in sight. Shortly the infant visually explores his surroundings as he looks for signs that, he has learned, indicate preparations for his feeding. As soon as he is able to distinguish his mother from other objects in his sensory field, his smiles of recognition announce the fact that his perceptual life has definitely begun.

Perception commences as a conscious response to a total situation that has some meaning for the infant. Observations substantiate the hypothesis that the infant gradually learns to discriminate significant elements in total situations. For example, on every pleasant day little Jack was taken for a ride in

his carriage immediately after he had awakened from his afternoon nap. He soon learned to smile when his mother started to get him ready for the trip. At length he began to point at the baby carriage and to make "fussing noises" if preparations for the outing were delayed. At first he appeared to be indifferent about who took care of him. Within two months he appeared to make preferential movements toward his mother. He seemed to be able to distinguish his mother's voice from those of other members of the household by the time he was four or five months of age. Observations on little Jack confirmed the hypothesis that vague patterns of sensory experience became more and more clearly perceived in a discriminative, selective fashion as he matured and learned to adjust himself to his environment.

Perceiving, like all other types of learning, is developed through repeated experiences. Perceptions tend to become more precise, and the child learns to attend more closely to those parts of his environment which have meaning for him. Accompanying the improvement in perceptual ability is a development in awareness of the services which his perceptions bring to him. Gradually, through perceptions, he acquires some understanding of the world and his place in it. Throughout his development, and in fact during his entire life span, he learns to make perceptions that are increasingly selective and purposeful.

Sensations and perceptions. Unless the young infant is hungry, the milk bottle is of little importance to him. When the condition of hunger develops, hunger pangs are perceived. Perhaps these sensations have awakened him from sleep. He commences to cry because these pangs are annoying to him. Usually his cries bring an adult who presents a full bottle of milk. Soon the infant associates the satisfaction of his hunger needs with some perception of the bottle or of the adult who brings it. This process is called conditioning. At birth he had some ability to see and to make sucking movements, but then he sucked on almost anything that was presented to him. Now

he makes the necessary sucking movements on the bottle and thus gets satisfaction. Other responses become inhibited because they do not satisfy hunger pangs, and a certain type of specific response becomes attached to the bottle. At about two or three months of age, the normal infant reaches out for the bottle. Thus we have an example of the dawn of meaningful, purposeful perception.

Perceiving and reacting. Perceiving and reacting are closely related. Though perceiving is a predominately sensory process, it involves the whole past experience of the individual. For interpreting present stimuli, memories of experiences are fundamental. Past experiences may have been somewhat like the present situation, and in that case the perceptual act is relatively easy and quick. Perhaps the situation arouses memories of conflicting experiences, and then the child may be confused. Many experiences are vicarious in nature. For instance, when a young child perceives an oncoming automobile, it is not necessary for him to have been injured in order to know enough to get out of the way. His parents have undoubtedly warned him of the danger of playing on the highway, and thus have given him vicarious experience. Of course, very young children cannot learn by vicarious experience; hence they have to be carefully supervised.

Usually when a situation has been perceived, a response follows. The reaction will depend upon the interpretation that is given to the situation. In turn, the interpretation is dependent upon the total set of the perceiving individual. Thus, if a child has surfeited himself with ice cream, the sight of another dish may repel him. An illustration will serve to make clearer the influence of past experiences, real and vicarious, in the act of interpretation. Two psychologists observed the reactions of a group of children to a large, harmless snake which glided about protruding a long, forked tongue.¹ The very young children watched the snake but displayed no signs of fear.

Definite indications of fear did not appear in children much younger than four years of age. The point is that the response to a situation is dependent upon an individual's past experiences. It is also dependent upon his present set. Perhaps a homely example will make this clear. Little Jane was ready for a frolic, but her mother said, "It's time for your nap." Hence Jane started to rebel by crying and struggling. She was not "set" just then to receive favorably the command to go to sleep.

As children mature, they become better able to take care of themselves without assistance from others. They learn to walk alone, to talk, to obey simple commands, and finally to follow complicated directions. At length they acquire some measure of personal, economic, and political independence. All along the way, their psychological development involves the processes of perceiving situations, discarding faulty reactions, and strengthening the correct responses. One of the most important problems in the whole field of psychology is to acquire an understanding of how we learn to adjust ourselves to the world. Although many theories have been advanced, they are all fundamentally similar, the differences lying largely in terminology.

THEORIES OF LEARNING

.. **Conditioned responses.** One of the most convenient theories of learning is the conditioned response explanation. Since it is supported by a great deal of experimental work and since it has become rather widely accepted, parents and teachers should understand something about this important theory. A conditioned response is a reaction to a stimulus that did not originally have the power to evoke this particular response. For instance, at first the young child does not know that the stove is hot and that he will get burned if he touches it. Perhaps he starts by exploring the stove, and then starts back in pain as he gets a burn. He now becomes conditioned to keep away from the stove.

Let us suppose that Jim's mother tells him repeatedly, "Keep away from the lead of the stairs." That injunction, however, has no particular meaning for young Jim, and he toddles down the hall. In a moment he steps down and goes tumbling to the bottom. Perhaps the words *keep away* now begin to have some meaning for the boy. If so, he has become conditioned to a certain type of response whenever he hears his mother speak these words. Helen was once greatly frightened by a boy who shouted at her from behind a grotesque Halloween mask. For nearly a year her parents were able to keep her confined to the back yard by hanging up a mask at the gate leading to the street. She had become conditioned not to go near a mask.

That conditioned responses play an important part in the development of the child's understanding and behavior is attested by many research workers. The development of the child's ability to think verbally, to perform highly complex skills, and to comprehend his environment may be conveniently and adequately explained in terms of the conditioning process. Unfortunately, most of the accounts of experiments on conditioning deal with lower animals, not with human beings. The celebrated experiments of Pavlov¹ were done for the most part upon dogs. More recently a number of research workers have experimented upon children.^{2, 3, 4, 5} They have sought to discover whether the phenomena reported by Pavlov and his coworkers are also discoverable in young children. In

brief, the conclusion is that most of the Pavlov findings seem to carry over into child behavior.

A simple illustration of a conditioned response in a young child is the act of "waving bye-bye" in response to the mother's command. At first the mother moves the baby's hand up and down as she says, "Bye-bye." At length, when she says these words, the baby waves its own hand. Finally the sight of the father going down the path to the gate may start the baby waving its hand.

Studies clearly indicate that children learn to talk by a process of conditioning. When they utter a sound they hear it; hence eventually the hearing of the sound may become a conditioned stimulus for them to make it. For example, the baby says something that sounds like "da-da," and the proud father exclaims, "He said *Daddy!*" Since the youngster hears the sound he himself makes, he soon learns to respond when he hears someone else ask him, "Say *Daddy.*" Examples of simple, everyday conditioning in the young child could be multiplied without end. The essential fact about a conditioned response is that it is a learned reaction to a stimulus that was not originally biologically adequate to evoke it, but which becomes potent when it is presented simultaneously with the biologically adequate stimulus the proper number of times.

Learning as bond formation. Another theory of learning has a great deal to contribute to our understanding of how infants and children learn. This explanation is stated in terms of stimulus-response bonds; hence it is sometimes referred to as connectionism. The idea is that if a given response is repeated with satisfaction it tends to become fixed as the mode of reacting to that situation. Let us imagine that the hunger pangs (the stimulus) cause the infant to cry (the response) and that the crying brings immediate attention from the mother. Thus the child learns (or acquires the S- R bond) to cry whenever it is uncomfortable or in pain. A connection has been formed between the crying and the satisfying state of affairs which the crying brings about.

Conversely, if a given response tends to bring about an annoying state of affairs, the connection is finally weakened and eventually broken.¹ Obviously, this theory is very old. Parents who reward children for approved behavior and punish them for misdeeds are using the law of effect of the theory of connectionism. They desire to fix certain S—R bonds and to break up other ones.²

More recently Thorndike has modified these general rules. In 1932 he wrote as follows:

We are led by all these [experimental] results to these general facts and principles:

First, a satisfying after-effect which belongs to a connection can be relied on to strengthen the connection.

Second, an annoying after-effect under the same conditions has no such uniform weakening effect.

From this we may conclude that Thorndike believes rewards (satisfyingness) more potent than punishment (annoyance) in the fixing of bonds or connections. Except for differences in terminology, there appear to be no essential differences between connectionism and conditioning as theories of learning. The connectionist theory, however, emphasizes the outcomes of behavior as they tend to fix or weaken a given response.

Other theories of learning. McDougall³ has emphasized the importance of goals in all behavior. He believes that every act is purposefully (though often unconsciously) directed toward some end or other; hence goal striving is the basic principle in psychology. New acts are learned, and old responses

are unlearned, because they help or hinder in achieving the goal. This theory serves as a counterbalance to some of the mechanistic explanations of how children learn. Though it has never won wide acceptance, it does direct attention to the purposeful nature of the learning process. Children learn because they are motivated to attain certain goals. If their inherited responses were adequate to enable them to achieve their goals, they would have no occasion for learning. Since, however, children have very few fixed responses at birth, they are motivated to learn a multiplicity of acts whereby satisfactorily to adjust to their complex environment. This theory seems to emphasize the dynamics of the learning process but to add little to our understanding of how children actually do learn.

The Gestaltists¹ emphasize the totality of the learning process; hence they believe that it is fallacious to analyze learning into various "laws." For instance, a Gestaltist might point out that the hungry infant is a totality responding to a total situation and that the various aspects of its behavior cannot be understood when taken separately. Learning, he might add, is always in response to total situations. The child gets sudden insights as he strives to reach his goals. When the insights come slowly, the situation is said to be too complex for the child's present level of development. An insight is a sudden awareness of "the right thing to do." It is, in slang, a matter of "catching on" or "getting the point." This theory, also, has a contribution to make to our better understanding of how children learn. It has not been widely accepted because some of its generalizations have little or no scientific evidence to support them. Certain of the main points, such as those mentioned above, do, however, have great value in child study.

IDEAS AND MEANINGS

Perhaps the most important single contribution from the Gestaltists is the emphasis upon meanings and ideas. An idea

is broader than a percept, it is an amplification and an abstraction of perceptual material. For instance, the use of negative quantities in algebra is an idea that takes us far beyond immediate perceptual experience. A meaning is an apprehension of the essential quality of an experience, apart from the sensory elements of the experience itself. Ideas and meanings are developed through the learning process, and thus have their origin in the sensory experiences of early childhood. They represent the highest degree of abstractions that human beings are capable of learning. According to the Gestaltists, ideas and meanings are built up by a series of insights.

The distinguishing characteristic of the ideas and meanings of young children is that they are highly egocentric. As Piaget¹ has demonstrated, the language and the thought of the child are self-centered, and the youngster interprets everything in relation to himself. The earliest talk of young children is not adapted to other people, but satisfies the needs of the speaker alone. Children are quicker to comprehend the relationship between themselves and other people or objects in their environment than they are to understand how people or objects are related to one another. They have not yet learned to analyze their ideas and meanings, hence they often mistake coincidence for causation.

A few simple examples will indicate how much young children have to learn in order to have acceptable ideas and meanings.² At age six Piaget's subjects said that lying is bad because "you are punished" and "if everyone believes you, it is not a lie." Hence some children thought that it was proper

to falsify school grades in order to win their mothers' rewards for good work, but that it was a lie to describe seeing a dog as big as a cow, since everyone knew that "it couldn't be." If a three-year-old is asked, "Show me your left hand," he will respond correctly; but if the questioner then says, as he faces the child, "Now show me my left hand," the child is likely to indicate the one opposite his own left hand. The point is that children have to learn to objectify their experience and that the world of the young child is highly egocentric. Many of the "bright sayings" of young children furnish illustrations of the self-centered nature of their ideas and meanings. One of the most significant aspects of the learning process is the gradual shift from self-centeredness to a more or less realistic objectivity in ideas and meanings.

Probably the change is brought about by a series of insights, each of which is limited by the child's degree of maturation and his past experiences. Alpert¹ has reported an ingenious experimental study of insight in forty nursery school children. In turn, each child entered a room in which a toy hung suspended out of reach. There was, however, a block which could be used as a pedestal whereby the child could get the toy. In another setup, Alpert placed each child in a pen, with two halves of a jointed rod. Beyond immediate reach there was an attractive toy. The experimenter wished to discover whether the children would "catch on" by observing the total situation. Some children lost a great deal of time in futile trial and error attempts to obtain the toy. Others "caught on" right away. The promptness with which the children secured the toy was taken to be an index of ability to get insights.

A few suggestions for teaching ideas and meanings. Since it is highly important that children learn appropriate ideas and meanings, a number of practical suggestions may be pertinent here.

1. The child should have an opportunity to encounter problem situations appropriate to his level of maturation and within the range of his experience. Thus he may receive training in exploratory behavior and the achievement of insights.

2. The child should find his own answers to problems. Adults are often too ready to give assistance, and thereby they deprive the child of the opportunity to develop mentally.

3. Although the problems should be challenging and the child should be encouraged to seek his own solutions, the problems must be kept within the range of the child's ability.

4. The child should learn through having opportunities to follow out the consequences of the ideas and meanings he develops. Of course, parents and teachers have to be careful to see that the child comes to no harm and that egregious blunders are corrected.

5. The problem situations must be graded in difficulty. The adequate solution of one problem must be followed by the presentation of a problem situation slightly more difficult. In other words, successes must not come too easily; neither must the problems be too difficult. The ideal is to give the child an opportunity to learn in a properly graded series of situations, one solution preparing the way for the next problem.

SOME ASPECTS OF THE LEARNING PROCESS

The learning curve. The process of learning, together with that of physical development, brings the infant from a stage of helpless dependency to a degree of self-sufficiency. Objectively, the learning process is evident in the rate of progress the child makes in the performance of various acts. This improvement may be pictured in the form of graphs known as learning curves. Representative learning curves are shown below:

Learning curves take a great variety of shapes, and they obscure an essential feature of the learning process; namely,

that the child often learns by sudden insights or "catching on." Some knowledge of the general features of the learning curve is, however, important for our understanding. Note that in the hypothetical curve labeled *A* the child is assumed to make rapid progress at first and then to achieve relatively smaller benefits from practice as time goes on. In a curve of this shape the practice periods are marked off on the base line (abscissa) and the rate of progress is indicated on the vertical line (ordinate). Sometimes learning curves are drawn with the practice periods indicated on the ordinate and the rate of progress on the abscissa. In curve *B* is shown a hypothetical record of the gradual elimination of errors as practice is continued; hence the curve goes down to the abscissa.

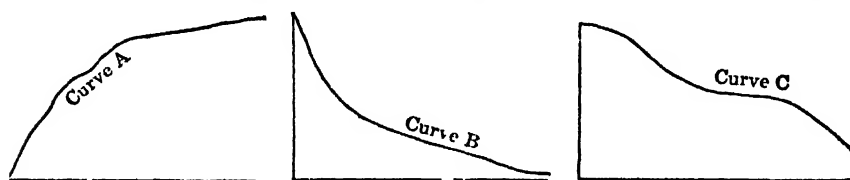


FIG. 14 Representative learning curves

Curve *C* is a sort of idealized learning curve drawn from many typical specimens presented in textbooks on psychology.

In general, a few interesting features stand out when the learning of a given act is presented graphically. At first there seems to be an initial spurt, during which the child makes great advance. Two explanations have been advanced to explain this initial rapid progress: (1) there seems to be a high pitch of enthusiasm for new performances, and thus the motivation is great at the outset; (2) the child never really starts at zero in any new act, but always brings something to it as a starter. After the learning periods have been prolonged for a time, there is often a pronounced slowing up of progress. This reduction of progress is called, on the graph, a plateau. The child reaches a point in learning the new act where he must master refined techniques, and the enthusiasm for a novel undertaking is wearing away. At length, the child progresses to the limit of his capacity in the performance. Needless to

mention, the limits which appear in these graphs are often pseudo-limits. With better motivation, the child might carry his performance to a much greater degree of proficiency. There is, however, no "typical" learning curve which is characteristic of every child and of every task to be learned. On the contrary, there are almost as many graphic representations of progress in learning as there are acts to be learned and children who learn them.

The place of motives in learning. McDougall's account of learning, as we have noted, places a great deal of emphasis upon the purposive nature of the learning process and accentuates the importance of motivation. It has been definitely established that incentives speed up the rate of progress in learning, and there is a rather definite implication from many experiments that learning does not take place in the absence of a motive. Four principles about the relationship between motives and learning are of sufficient importance to be clearly understood:

1. The natural situation for learning is that the child have a felt need to acquire the new response pattern. Reactions which are at present in the child's repertoire are inadequate to bring a satisfactory adjustment to the situation; hence there is motivation to bring about exploratory and insightful behavior to find a better way to adjust.

2. The more appropriate the satisfaction is to the situation, the better the child will learn. Of course, children may be motivated to learn certain acts in order to please parents or teachers; but, should the child's satisfaction arise from the situation itself (the intrinsic reward), learning seems to take place more rapidly and effectively.

3. The child seems to benefit more from praise or reprimand than from no comment by adults. Preferably, adults should praise young children for their successes rather than upbraid them for their failures.¹

4. A little competition, if wisely introduced at the appropriate age level, seems to furnish a strong incentive to learn. Very young children may even compete with themselves by trying to better their previous day's record. Older children often benefit from judicious use of competition with others. If, however, competition is overemphasized, the child may become antisocial in his desire to win at any cost.

The effects of practice. An old slogan is that practice makes perfect. Although this statement is widely accepted, it is not the whole truth. Mechanical repetition, without motivation, does not result in much learning. In fact, there is no experimental evidence to show that it results in any learning at all. Hence the first point to understand is that the slogan needs to be amended: Practice with strong motivation is likely to bring some improvement in performance. In the next place, if the act is beyond the child's level of maturation and experience, no matter how hard he may try to please parents or teachers, little benefit may result from continued practice. It is also true that, if the child has just about reached the limits of his ability in a given act, further practice will bring little progress. In some instances prolonged practice may actually effect a loss or decrease in ability. The likely explanation is that the child becomes bored with the task; and hence, because of inattention, he may learn many wrong habits. Finally, we should never lose sight of the fact that learning often takes place with great suddenness. The essential feature of the learning process is obscured if we think only of the conventional learning curves. When the material to be learned is really significant for the child, he usually gets his ideas and meanings with sudden insight.

Age differences in the rate of learning. It is trite to say that learning ability increases from infancy to adulthood, but there is much interest in finding out by experiment just how children of various ages differ in this respect. Innumerable experiments have been conducted to discover age differences in the rapidity and the degree of difficulty in learned per-

formances. Only a few representative studies can, of course, be reviewed here.

We have already discussed briefly the principle of conditioning, a type of learning that seems to take place in all forms of animals having a nervous system. English¹ reports having established conditioned responses in infants as young as twenty-eight weeks of age. The revised Stanford-Binet scale,² based upon a considerable amount of research, contains a great deal of material indicating the progressive development of learning capacity. For instance, the memory span (amount of material that can be reproduced after a single hearing) increases as follows: two digits at age two and a half, three digits at age three, four at age four and a half, five at age seven, and six at age ten. Two investigators³ trained a group of young children by the "forcing method" and effected a temporary lift in memory span; but after the summer vacation these kindergarten children reverted to the normal level for their age.

Average successes at various age levels in a simple test bring out clearly the relation between mental development and chronological age. Place four one-inch blocks before a child, and tap these cubes with a fifth cube in a definite order. Say, "Watch me carefully, and then you do exactly as I did." The cubes should be tapped, at the rate of one a second, first in the one-two-three-four sequence. The patterns become increasingly difficult, and finally are beyond the capacity of the child. The point is, of course, that the older the child is, the greater is the probability that he will exceed *in performance* the level of children who are younger than he.⁴

Perhaps these laboratory studies of learning obscure an im-

portant fact about the process. They seem to imply that various acts are learned in isolation from one another and that learning always takes place in controlled situations. Of course, learning takes place in quite a different fashion in real life situations than in the laboratory. For one thing, the child has just as much chance to learn wrong procedures as to acquire the proper habits. Hence it is essential that parents and teachers be alert to guide the child in mastering the correct skills and understandings. Another difference between laboratory studies and learning in real life is that in actual situations the child uses all the skills and understandings that he has developed. In other words, the learning process has a continuity, and habits are not acquired in isolation from one another.

QUESTIONS AND EXERCISES

1. How do you account for the growth of consciousness in the young child?
2. Give some original examples of perceptual learning.
3. What is the difference between sensations and perceptions? Could we perceive the environment if we were unable to get sensations? Explain in detail.
4. Are the various theories of learning really different? Show how the theories set forth in this chapter supplement one another.
5. Do you believe that we might draw up a neat list of the "laws of learning"?
6. Is learning a dynamic, purposeful activity, or does the child acquire a system of isolated habits? Justify your answer.
7. Give five examples of conditioning in real life situations. Do you believe that all learning may be explained in terms of conditioning?
8. Give some everyday illustrations of S - R bonds.
9. Find some examples of "bright savings" of very young children and show how they result from imperfect ideas and meanings. Can you explain how these erroneous interpretations may have arisen?
10. Can you cite some original examples of insights that have been acquired by young children? How do insights arise? Could the child get an appropriate insight without any past experience at all? Explain.

11. Why do learning curves not tell the whole story about how children learn?
12. Does repetition fix new responses? What more is needed to acquire new habits?
13. What differences between laboratory experiments and real life situations can you think of? Why do we need to supplement experiments on learning by observations of normal children in normal environments?
14. Explain clearly the purposive aspect of the learning process.
15. Why might a highly technical discussion of experimental discoveries about the learning process obscure our understanding of some of the more important aspects of children's ability to learn?

Chapter 10

Social Development of Children

INTRODUCTION

The newborn child enters an environment which is soon to become social, even though at birth he is neither a social nor an unsocial being. He is an organism possessing certain potentialities and mechanisms ready to function, at first in a very limited way. His individual development is limited in terms of his biological inheritance, and his social development is likewise conditioned by those qualities that are related to his biological inheritance. However, no matter what the inheritance, the child possesses a high degree of modifiability and significant potentialities for growth and development.

If the infant is nonsocial at birth, when and how does he develop the social attitudes? He cannot remain nonsocial for long. The human baby is so constituted that he is dependent upon someone from birth and thereafter for a long time to come. He needs help and attention for his complete welfare. He learns early that he is in the presence of people and begins to make responses to his mother and his nurse. At the beginning of his life, these responses are very meager. However, as his sense organs become more receptive to stimulation through their use and maturation, as he lives one day after another, these social adjustments become more evident. The infant's social behavior is based on the respective responses which he makes in his endeavor to satisfy his bodily needs. The stimuli which evoke these responses change from the

specific and intense to the more subtle and less obvious as the child grows through his first twelve years of life. Such stimuli as approval, the use of language, interest in self, and interest in others become powerful forces in his social development.

Social behavior is developing when adults care for and handle the infant. The mother not only gives him substance for physical nourishment but stimulates him socially as she cares for him. The baby is dried, kept warm, petted, talked to, always with the hope that he will respond with behavior that may be taken to indicate satisfaction. When the baby becomes restless and cries, the adult intensifies his use of stimulation, physical and social, in order to bring about a change in response. The changes that are taking place in the life of the child are little discernible at first and are difficult to measure; nevertheless, they are significant and lasting. The adult is aware of them through the responses of gurgling, cooing, smiling, and other bodily movements, such as those made by the arms and legs. Gradually the infant is able to transfer the interest which he manifests in the reaction from the feeling of satisfaction to the person who makes the response possible. According to Murphy and Newcomb:

Understanding a social personality, then, involves not only the capacity to see one aspect of social behavior in relation to others, or even in relation to the total intellectual and emotional make-up of the individual, but the capacity to see behavior which appears in one situation in relation to the values of that situation which permit such behavior to emerge, and the possible values of other situations in which other behavior might appear.¹

The mere presence of the mother, the way she touches the infant, her habitual facial expression and tone of voice are stimuli that are slowly but completely building into the life of the infant patterns of behavior which are to become a part of his personality. Murphy and Newcomb believe that:

When we think of the relation between any one aspect of social behavior and the total personality of the child, we are likely to think primarily in terms of closely related social-emotional patterns. In fact, this is all we know much about. But certain investigators are beginning to look for relationships that extend much farther. For instance, the "hyperactive" child is apt to show characteristic intellectual responses that have a good deal in common with his social patterns. He will flit from idea to idea without pausing to see any one of them through to a finish just as he will flit from one social relation to another without giving himself to a sustained response to any one.¹

The more experiences which are brought to the infant and through which he may learn, and the better his ability to receive those experiences, the more complete will be his learning of the social qualities which are a part of them. The child learns early to discriminate. He learns to know the meaning of this touch, that tone of voice, this fondling, even of the mere presence of a certain person. Although the foregoing is true with people already known to the child, the stranger presents a new set of stimuli and hence meanings are obscure to him. However, after sufficient stimulation by the newcomer, the infant can extend his interpretation and thereby increase his social understanding.

The student of social life knows that the individual and the group coexist. He also knows that there is an overlapping of the interests and concepts and a composite of them at the same time. The individual must always be taken into consideration, and the attitudes of the group can never be a summation of the feelings, attitudes, interests, etc., of the respective individuals who constitute the group. Group attitudes spring from the emotions and are bound together through the stimulation of the leader or leaders in the group. There may be a tendency to think of the social world as a kind of social structure and to look upon social culture as though it were something over and above the individuals of which it is comprised that operates independently of them. It must be re-

¹ Ibid, p. 333

remembered that the experiences of the individual and the experiences of society are but aspects of a complex entity. Any given period of social development must be viewed in relation to what has gone before and to what will come after. Thus, to understand the social maturation of the child at any one time and to handle his current social development intelligently, it is not enough to have a knowledge of his behavior in meeting new situations; it is also important to know something about his home, schooling, etc., up to that time.

SOCIAL DEVELOPMENT DURING CHILDHOOD

Social responses during the first year. Infants during the first month respond to relatively few stimuli. Hence their environments during this period are comparatively similar. As the infants undergo the maturation necessary for receptivity to more stimuli, physical or social, they are undergoing the fundamental experiences basic to the development of social behavior. An adult's entering a room or speaking to an infant is sometimes sufficient to cause the infant to stop crying. This cannot be advanced as the true stimulus that causes the infant to change his responses, since the stimulus may be internal as well as external. In the absence of all similar stimuli the infant may still stop crying. Consequently his change of response may result from any noise, change of position, or pressure relief.

During the second month, babies seem to be unaware of the presence of other babies even though they are near them. They are, however, actively aware of the adults who care for them. There is observable evidence of growth in the normal infant's behavior toward a small block. By the end of the second month he will hold it for a short time if it is given to him. This experience produces little in the way of observable social response. The infant does respond, however, to persons who make an effort to stimulate him in a social way. For example, he will often smile when he sees a familiar person.

By the end of the third month the infant will attend, but

only for a moment, to a cube block placed on the table before him. Again there is little of the social in this. However, the presence of a person or the sound of his voice may be sufficient to cause the infant to turn his head or his eyes toward the source of the stimulus. He will smile when stimulated by another human being, but not especially in response to a smile. The infant has not learned that the smile given by the adult is to be the stimulus to set forth the smile he produces, for he is likely to smile also in response to an angry face or a distorted facial expression. The capacity for these responses is rapidly developing but the responses themselves are behavior which has been learned. According to Washburn

Methods of stimulation which elicit earlier smiles are also effective in eliciting earlier laughter and appear to depend upon the distance between the subject and the experimenter, the earlier smiling and laughing requiring greater proximity and even abrupt physical contact of a jolting, not a tickling, variety.¹

Differences in learning ability are becoming more observable now, and a few infants begin to show ability to discriminate between facial expressions, tones, and gestures. At this age the child understands some of the threats of disapproval given by adults.

By the fifth month the infant not only may smile in return to another's smile but may cry at a scolding voice or threatening gesture. The child by this time has developed his powers of perception to such an extent that he is becoming aware of detail as well as of the general expression, which he had known before. He is capable of understanding these details in an increasing number of adults. He has learned from the constant attention given to him by the mother or nurse, when satisfaction resulted, to recognize the type of ministrations to his needs which was being used. In fact,

. . . the infant of four or five months is an amazingly socialized creature in comparison with his ten-day-old self. Sounds and sight of persons have become satisfying for their own sake; smiles and crying give the basis for real social give and take; and these, together with grabbing, make play an important part of the baby's life from now on.¹

During the sixth and seventh months, the child may be expected to respond to the game of peek-a-boo. He will laugh when a person uses his hands or other obstruction to cut off the view of his face. By this time he can balance his head without support and can sit for ten minutes or more when supported. He will also hold fast to a hand and attempt to pull himself to a sitting position. It is very evident that he is gaining better muscular control. He shows his interest in things by playing longer with one toy than with another, and shows through laughter that he enjoys being bounced on a bed. His increasing capacity to utilize the many social stimuli in his expanding environment enables him to enlarge the scope as well as the number of responses to an increasing number of social situations.

During the eighth, ninth, and tenth months the infant is making vocal sounds and shows ability to imitate some of those sounds. The outside world is becoming aware that he is conscious of other human beings. Before this the infant was not interested in another infant even though the other infant was placed in close proximity to him. However, he may now desire attention that is directed to another, object to a toy being taken away from him, or manifest an interest in sharing his toy with another infant. He is very observant of moving parts of the adult who may be seated near him. If he sees a swinging foot of an adult seated with his legs crossed he will attend to it and look for it the next time he sees the person seated in the same way.

Development of the smiling response. The development of any one behavior response is a complex and ever-changing

¹ G. and L. B. Murphy and T. M. Newcomb, *op. cit.*, p. 566 By permission of Harper & Brothers, New York.

pattern. The following summary by Washburn ¹ describes the behavior in smiling which is quite typical of respective age levels. The behavior items mentioned may be seen at other age levels in a less characteristic degree.

Twelve weeks

Twitching of lips and other facial muscles preceding smiling.

Round, open mouth.

Protrusion of chin (incidence and degree decreasing up to 40 weeks).

Vocalizations monosyllabic—"ah" (decreasing up to 40 weeks).

Hands are moved up and down over center of body and come to rest in the mouth region.

Knees are drawn up toward the abdomen, with rolling of body.

Mobilized attention with reduction of bodily activity precedes smiling (decreasing up to 44 weeks).

These forms of activity are not confined to smiling, though typically present in the last stage of the smile.

Twenty weeks

Upward retraction of corners of the mouth are frequent.

Crescent-shaped mouth first seen.

Shortened nose, wrinkles on bridge of nose, first observed.

"Peach-stone" chin appears.

Dissyllabic as well as monosyllabic vocalizations—"ha," "ahgh," "ah-goo," "gargling," "squeal."

"Waving" of arms and successive kicking of legs, especially in the last stage of the smile.

Leaning toward source of stimulation begins (depending upon degree of development of eye-hand coordinations).

Thirty-two weeks

Retraction displaces "opening" of the mouth with consequently greater bulging and raising of cheeks.

Horizontally elliptical mouth most typical.

Tongue protrusion at its height.

Exposure of gums begins.

Eyes often half-closed rather than narrowed slightly.

Wrinkles or curves at outer canthi of eyes frequent.

Chin drawn in to neck.

¹ Ruth W. Washburn, *op. cit.*, pp. 527-528.

"Coy" smiles (head bowed or bent to one side, glance directed upward) first observed.

Vocalizations prolonged "ah." Varied jargon-like sounds.

Bubbles blown, especially in the last stage of the smile.

Fifty-two weeks

Greater effect of "control" in the above forms of behavior; less bodily activity.

More individualization in subjects' smiles.

Double naso-labial fold first seen.

Responses to others. Through each of the months during the first year of the infant's life he is developing attitudes that are a result of his perceptive powers and the stimulation he has received. His needs throughout this time have been largely vegetative. However, in caring for his needs, adults and other children were individuals in the environment who have made an effort to satisfy or to thwart his desires or drives. As the child approaches the walking stage he usually has his first opportunity to meet other infants. Any such meetings before this time have usually been casual and unproductive of display of social interest. There is a big range of difference in interest of an infant toward another infant or another person. Some show no interest, others show a marked interest. Bühler's observations¹ concerning the responses of infants to other infants and to adults are shown in Tables V and VI.²

The data of Tables V and VI should not be applied too literally. There are extremes in both directions. However, a picture of normal development is presented which can give one an idea of what might be expected of infants at different stages of development.

Since the infant is developing socially and since, in many cases, he has not had an opportunity to gain social experiences with others of his own age, it may be difficult to say of him that he is socially independent or socially dependent without

¹ Charlotte Bühler, *Proceedings and Papers of the Ninth International Congress of Psychology*, pp. 99-102.

² As reported by F. D. Brooks, *Child Psychology*, Boston, Houghton Mifflin Co., 1937, pp. 363-364.

TABLE V. RESPONSES OF INFANTS TO ADULTS, OBSERVED IN SIXTY PER CENT OR MORE OF THE CASES (BUHLER)

	<i>Age in months</i>
Returns glance of adult with smiling	1 to 2
Is quieted by touching	1 to 2
Cries when adult who was attending him leaves	2 to 3
Smiles back at adult	2 to 3
Disturbed when approached	2 to 3
Returns approaching glance with 'talking'	3 to 4
Displeasure when loses glance of adult	3 to 4
Quieted by caressing	4 to 5
Disturbed by the sight of people	4 to 5
Striving for attention by 'talking'	7 to 8
Stretches out hands toward adults	7 to 8
Cries when adult stops talking	7 to 8
Strives for attention by movements	8 to 9
Pulls on the clothes of adults	9 to 10
Offers adult an object	9 to 10
Imitates movements of adult with a plaything	9 to 10
Organized play activity	10 to 11

TABLE VI. RESPONSES OF INFANTS TO OTHER INFANTS, OBSERVED IN SIXTY PER CENT OR MORE OF THE CASES (BUHLER)

	<i>Age in months</i>
Observes other child	4 to 5
Smile at other child	4 to 5
Cries if other child receives attention	8 to 9
Offers toy to other child	8 to 9
'Talks' to other child	8 to 9
Imitates movements of another child	9 to 10
Opposes toy being taken away	9 to 10
Organized play activity	10 to 11
Strives for attention by means of 'talking'	10 to 11
Ill-humor if another child moves away	10 to 11
Setting aside toy and turning toward another child	11 to 12

giving the impression that sociability is an inherited quality. Perhaps the desired interest in another can be developed if the infant has the environmental setting presented over a long enough period of time. In spite of their heredity, the Dionne quintuplets have shown a great difference in social interest. Is that due to difference in the infants or is it a result of different attitudes and behavior of adults toward them?

The adult, without being aware of it, greatly influences the developing pattern of the introvert or of the extrovert.

Social responses of preschool children. A year-old child can learn to say "bye-bye" and hide his own face in his hands. He can utilize his drive to go after what he wants by creeping. He is able to show that he understands the names of certain objects when their names are mentioned. He can understand and obey certain commands. He can call the attention of another to an object of special interest to him. He can eat with a spoon and drink from a glass unassisted. Although some of the foregoing are attempts to project himself, during the first two years of his life the child is more likely to attempt to take than to give. Up to this point he has had training in self-centeredness and still demands personal attention. He therefore needs training in the art of living with others in order to develop consideration for others and become more altruistic. Situations should be provided that will enable him to engage in those social practices.

Murphy and Newcomb, after studying many reports of experiments, have arrived at the following generalizations:

1. Between the ages of two and five years, the variety of social behavior patterns increases from year to year.

2. Among two- and three-year-olds, there are substantial positive correlations between practically all overt social behavior patterns, including those which adults think of as desirable and as undesirable.

3. Resistance and negativism may commonly be expected to reach a peak at three years, more or less independent of economic group or geographical location. This probably means merely that in our culture the conflict of the child's readiness to expand with the restrictions imposed by adults is almost universal for this age.

4. Friendship and integrated patterns of cooperation begin at three or four and expand from that time on into more complicated or organized forms.

5. The quality and amount of cooperation or conflict are affected by the set-up of the group: number of children in relation to space and play material, age range of children, personality of dominant children, amount of teacher direction, and personality of teachers.

6. Personality reactions to home situations, especially parents'

attitudes toward the child, carry over into general tendencies toward withdrawal (children of over-protective parents) or aggression (children rejecting parents), appearing in other situations

7 Children vary in the extent to which behavior in any one situation is a basis for prediction of behavior in any other situation. Some children are relatively consistent from situation to situation and others vary sharply, where variations occur, they follow consistent patterns that can be understood when seen in relation to the total personality of the child.¹

Social development in nursery school and kindergarten.

When the child reaches nursery school he makes the awareness of self explicit in his behavior.

He becomes a member of a small world of children, all near his own age, although differences in age may vary with the arrangement in different groups. This world of children furnishes, from this time on, a major part of his social diet. He is constantly assimilating this, by direct imitation of patterns of other children, by spontaneous reaction to things which they do or to situations which they create, by resistance to the pressure, by repeated experience of tensions aroused by their mere presence.

The child tends to think of things as his own. He refers to them as 'my house,' 'my rabbit,' etc., and he tends to take things from another for himself. It is at this time that he needs to develop new socializing attitudes. He is taught restraint and control and gets assistance in developing a sense of right and wrong. He gradually has experiences which give satisfaction and heighten his feeling of himself as an individual, thereby giving him a sense of power. This discovery of self and the intense interest in self make him curious concerning things and people about him. This is the questioning stage. The child asks questions to learn about things, to hear adults talk, and to check up on his own information. Children like to draw adults into conversation, and the question is an easy way to begin.

The teachers in the nursery school and kindergarten should be emotionally able to accept the child's dependence upon them and to become parent substitutes in giving to the children a sense of security and demonstrations of affection. This is especially necessary at the beginning of the semester. A child can be rushed into being "self-reliant" too rapidly, just as the attempt can be made to keep him a baby too long. Children of this age usually have one friend and sometimes two with whom they are identified, usually for short periods. Sometimes they have an imaginary constant companion. A kindergarten boy once had that experience and reported it to his parents daily. He was fond of a little girl who did not attend the kindergarten, yet he told his parents each evening that he played with his friend; he reported fully upon what they did and what they said in their play. Later the parents discovered that the girl never attended the school.

In discussing the sympathetic behavior of children between the ages of two and four Lois B. Murphy suggests:

Statistical analysis clothes in more definite terms the impression we recorded earlier, that among children from two to four years of age in a nursery-school situation, sympathetic behavior increases with chronological age, with mental age, and with intelligence measured in terms of I.Q. Bridges' descriptions of the behavior of children in a Toronto nursery school anticipated this, and there are no data from any other investigation which could lead us to question this conclusion. To a large extent, this fits in with records of other investigators, who found other sorts of social behavior increasing with age during this period, and this quite without regard to the socially approved or disapproved character of the behavior. Sympathetic behavior, leadership, and friendships increase hand in hand with resistance, aggressions, and less comfortable behavior of young children. In short, we may say that during this period both the variety and the amount of social responses normally increase with age, and that sympathetic behavior differs in no essential from any other cross section of behavior as far as changes with age are concerned.

We saw that sex differences in gross sympathy scores do not exist, and that boys are quite as sympathetic as girls at this period. Prob-

ably it is too early for a masculine-dominant culture to make a deep impression of a selective sort; these boys do not yet know that they might some day be considered "sissies" for too ready sympathy, whether sought or given.¹

When young children are allowed to form groups freely they are usually limited to children who are near enough to join the group. If children are left to themselves, the factors of race, color, sex, poverty, or riches do not become factors in the formation of the groups which are rather formed largely upon the basis of the behavior of the individual and his ability to participate in the activities of the group.

About a fourth of the choices of the kindergarten population are for the opposite sex. But the motivations given are still so undifferentiated that the motivations for heterosexual choices cannot be distinguished from those for homosexual choices. This does not infer that sexual feeling is not inherent in the attraction but rather that this feeling does not become articulated except in rare instances.²

The type of companions a child selects or the type of child selected by others and the attitudes they have toward one another are most enlightening in the study of child behavior in the social setting. Some children are extremely diffident and will make every effort to keep away from other children, while other children force themselves into any group and begin at once to dominate it, often to the annoyance of its members. The child's ability to function in any group is largely the result of his training and experience rather than the result of other factors. The child who receives training in group living and group leadership is likely to adjust easily to new social situations later.

During the nursery school period the ego-alter relationships of the children are rather definitely manipulated by watchful

adults, very often to so great an extent that the free physical responses natural to the young child become imitations of adult verbal and "constructive" responses. "Almost always the will of an adult is the strongest and hardest reality in the child's life. Indeed, there exists in the adult, thanks to the actual superiority of his sphere of power, the natural inclination to make his wishes the decisive principle of reality for the child." ¹

Development in elementary school. The social development of the child is a continuous process with definite stages or steps. Even though the organization of this process of socialization is well planned, there are bound to be factors in the various stages so potent in their influence upon the growing consciousness of the developing social being that the child has no pattern of behavior ready for the new set of social stimuli. One such set of circumstances occurs when the child leaves the kindergarten or the sheltered home environment for the regular elementary school group. Murphy and Newcomb aptly describe this transition:

Entrance into the conventional first grade marks a sharp break in the actual structure of the child's experience. For the first time in the case of many children, they are expected to conform to a group pattern imposed by an adult who is in charge of too many children to be constantly aware of each child as an individual. Flash cards are flashed to the group all at once. Stories are told and everybody must listen whether he will or no. Drawing paper and crayons are meted out whether you happen to feel like drawing at that moment or not. One child who found this shift quite beyond endurance remarked after his first day in school, "It's awful; all you do is mind all day long." And another day he added, "It really is awful. All you do is sit and sit." ²

Social development of pre-adolescent children. The social behavior of humans is of a twofold nature. One aspect is the behavior which affords stimulation to others, while the other consists of the individual responses made to such stimu-

lation. By the age of six and on through the pre-adolescent period the habits and social responses become more fixed. Through his play and his increasing social contacts with other people, especially children, the child adds many new social responses. He has already developed the use of language and has discovered that he can do wonders with his voice in attempts to influence and sometimes to control social situations. Much that he has learned through imitation can now be generalized and put to work for him in a very subtle way.

The use of language, a major form of social stimulation, functions through the stimulation of one person by the vocal reactions of another.

Murphy and Newcomb believe that

Although language only slowly becomes a means of initiating social contacts, it soon becomes an important means of sustaining them. Often it makes little difference what one says to one's playmate or one's father; the talking helps to 'hold' him physically and emotionally near. The two-year-old whose language is largely limited to 'want a cookie' develops into the five-year-old who asks questions for the sake of holding the attention of parent or teacher, as well as for curiosity; and who may sustain relatively complicated dramatic play episodes with constant verbal directions.¹

Every vocal expression becomes enriched by an associated attitude and emotional response. This is intensified through gesture and imitation. Language is an abstraction through which the child is aided in understanding many more of the things about him. Not only is he stimulated by the spoken word but he is also having his emotional life enriched through the written word. This, coupled with the fact that he can now get about and enlarge his social range on his own account, increases greatly his social concepts. He desires to share his experiences, his attitudes, and his feelings with others, and struggles at length in an attempt to impress others. While it is true that children up to twelve cannot understand some of

¹ G. and I. B. Murphy and I. M. Newcomb, *op. cit.*, p. 585. By permission of Harper & Brothers, New York.

the finer distinctions of general concepts, they do have an understanding of them gained through observing the behavior of adults who were using the terms. In other words they have developed a "feeling attitude" toward such concepts. From a social point of view this may be more significant than the words which the child may use to formulate a definition.

Development of social habits. The child learns early, as the concepts are presented, the meaning of bad and good. He also knows right from wrong in the social situation. If he has received proper training in these social habits before six he can be expected to have them function through wise leadership of the teacher, the parents, or other people. We lose sight of this fact as adults, and many children develop undesirable practices because they know that we think that they do not know better. True, many situations are new and need to be generalized by the child. Yet it is pretty safe to say that as adults we err more often on the side of underestimating the social and moral understanding of children than we do in overestimating it. Thus we find one of the chief reasons why this understanding of right and wrong does not always govern overt behavior, even though it is already a part of the child's knowledge.

Children are ever playing a game with adults. The adult serves as the umpire and too often he does not see all the plays. Children know what they should do and often turn to the apparently disinterested person for a decision, hoping that it will be made in their favor even though they feel that the facts do not warrant the desired verdict. In school, the children usually try out the teacher, especially the new teacher. They know better, but their behavior does not conform to their knowledge until the understanding teacher casually but completely helps them adjust their behavior to the situation.

The influence of the environment becomes more potent as the child becomes responsive to more social situations. The home is no longer the center of interest and authority and the parents are no longer the principal stimuli of imitation.

The child is undergoing a transition from intense interest in himself to an interest in others, usually those most like himself. We observe a growing tendency toward group activity. Although his interests are really selfish, or self-centered, there is an increasing tendency on his part to practice considerate, polite, sympathetic, solicitous attitudes toward others. A child of this age will give up something he prizes just to win back friendship that he feels he may have lost. This is true whether the other person concerned is an adult or another child.

The emotional factors in social development. Early emotional satisfaction consists in the experiencing of physical sensation. The behavior attendant upon this emotional satisfaction indicates either pleasure or displeasure. The emotional life of the child is built out of the emotional qualities of adults, particularly parents, who guide and direct the infant through the greatest learning period of his life. Children and adults live in two really different environments—two apparent levels of experience. Each reacts differently to the same surroundings because of differences in interest, knowledge, apperception, etc. The child is consciously aware of these different aspects and reacts accordingly.

After the child has been in school a few years he comes to learn that human beings are not consistent and that they cannot be expected to be so. This is a keen disappointment to him, because of his high regard for the teacher. He must revise his ideas, however, when he is scolded because he said only what the teacher had said a few minutes before. A teacher in giving a reading lesson to a third grade had carefully prepared the plan of procedure. She was making use of a picture and developing a genuine interest in the lesson when one child mentioned something about the picture which the teacher had not seen when she prepared the lesson. It so startled the teacher that she unconsciously said, "Gee, I didn't see that." A few minutes later a youngster in the rear of the room was quietly saying "gee, gee" to himself yet audible to all. The teacher, not knowing that she was the stimulus

that started the undesirable behavior, gave the boy a lecture about the undesirability of using that word. The boy did not reply, but certainly must have had an intense lesson in the inconsistency of human beings. As parents or as teachers we very often permit in ourselves acts, sayings, or behavior which we deny to children. Is it any wonder then that they become bewildered as to what constitutes desirable behavior?

There is an inner urge in children to be friendly rather than unfriendly. Unfriendliness is born of the environment. It develops from unsatisfactory experiences with other children or adults. Long before the child is old enough to play freely with other children he is likely to have discovered that the adults around him have certain feelings about others, and he will have adopted similar feelings. To a large degree, the attitudes of the family during the child's infancy become a permanent part of his life. Those attitudes and the feelings associated with them determine the response of the individual to the many situations which he meets each day. They also give him his impressions of the outside world and in turn build his emotional life through his satisfactions and disappointments, his fears, his aspirations, and his prejudices.

The young adolescent. By the time early adolescence is reached the child has formed many habits, attitudes, and ideals which will either hinder or help in later adolescent social development. One of the most valuable things for a child to learn is that, unless he considers the rights of others and makes them feel important, he will run the risk of having few friends. As a result of his behavior the other person will react in a certain manner; and if he will observe the nature of this reaction, it will tell him something about the other person. The drive or desire will play its part. If the child wants to win the friendship of the other person he will do or say the things that will win that friendship or, failing in this, he may turn to another to cultivate his companionship. If the child has the ability to discern in the behavior of others the influence of his conduct he has a priceless social insight. However, if

he does not have this insight he should be helped to see the viewpoint of the other person and study the latter's reactions, rather than to become too engrossed in his own viewpoint. Parents should not burden the child with their worries any earlier than can be helped, nor should they assume the child has no worries of his own. They should not assume that the child is carefree just because adult cares and responsibilities are in the distant future. Parents who burden small children with the details of their worries unconsciously assume that the children are capable of understanding and reacting on their own adult emotional level. The child is quite emotional about his parents. He takes possessive pride in them; he imitates and accepts their attitudes and behavior.

If the child's emotional needs are satisfied and he is well physically, he can be expected to develop into a healthy stable member of society. He will pass gradually from infancy through childhood into adolescence. These various stages must be recognized and the child must not be asked to go beyond his age in his social behavior and social interests. He should be given problems that are on his social and emotional level, and social behavior must be fundamentally adjusted to his social level. He should be given every opportunity to realize completely each stage of his development.

The course of social development. During the years from six to twelve, common interests and activities, mental and physical development, and an increased understanding and interest in other children are factors that underly the formation of groups. The groups thus formed are far more stable and lasting than the rapidly shifting groupings of the preschool years. Increased understanding of more of the generalizations or abstract terms enables them to utilize the mental resources of others in constructing the social unit. Thus we find that boys and girls of about eight to ten years of age frequently form gangs or clubs of one kind or another. Many are for a day only while others will be carried on from one group to a succeeding group. The boys or girls long for

some ideal which they can use to rally around. Once the ideal is agreed upon, the intimacy, the loyalty, the vigor, and solidarity have proved to be remarkable. These become group forces which serve society or injure it to the extent of the real solidarity and enthusiasm of the group.

The child is a natural egoist, all he is interested in is his own comfort and sensory pleasures. Only because his desires are satisfied by others does he learn to become social or feel affection. As he grows older he is encouraged and forced to surrender more and more of his egocentricity by rewards, social approval, punishments, and denials. He discovers that many of his best moments are with others and, although it may be against his egotistic tendency, he gradually becomes willing to trade his selfish tendencies for social rewards. In infancy, the dependence for his existence, his welfare, and his happiness upon others is not questioned. However, as the child grows and develops and becomes more able to take care of himself, his relationship with other people is increasingly important for other purposes. Earlier, the motive of the other person was of great assistance to him but as he grows older, it changes to outright competition of a desirable or of an undesirable sort.

Adjustment to the group. There are certain fundamental social adaptations which children must learn if they are to exist in society. They must learn to be kind to other children, to be tolerant of their interests, to respect their personal and property rights, and to adjust their differences without too many and too serious conflicts. In the past the child has been told too often that he should *not* do this or that he *may not* say that, rather than to *do* this and to *said* that, etc. He should learn the practice of obedience but it should be the kind that springs from within him because he desires to be obedient, rather than that practiced for the mere sake of the goal.

The group of which the child is a member exerts a great leveling influence upon him. If he is a bully and the group does not approve, the members take care of the problem. If

he is a leader and the members respond to his leadership he becomes the personage toward whom their ideals, hopes, and aspirations for the success of the group are directed. He is learning the values to be derived from giving consideration to others. After studying many children Moreno reports:

We found that children, boys and girls, who had reached the 8 years age level or were near to it were able to run a society of their own without the aid of any older individuals. Usually they formed societies with one leader as the head. If growth had been stopped at this age level and if no more highly differentiated societies existed these children's societies would persist and develop an orderly organization as they attain a minimum of constancy and differentiation necessary for common pursuits.¹

Very often the child expects a greater amount of consideration from those in authority in the home or in the school than he expects from the leader of his own select group.

The degree of the child's social development will depend largely upon opportunities to play with other children. Children who are left to themselves to daydream or who have only adults for companionship do not know how to play with other children. The playground is the workshop of the child. The social and mechanical tools which are supplied to him there will help determine his social and mental development. He needs to meet and play with children of his own age. He needs friends whom he can treat as his own and in his own way. He needs playthings and equipment which he can really use; and he needs a chance to develop some wholesome differences with his playmates.

During his early life the love a child has for another person is largely a selfish love. During early adolescence the young person begins to admire those qualities in the opposite sex that are least like his own. He is beginning to attend to the social behavior of others. He is at the beginning of the falling-in-love period. As these deeper personal feelings are being stirred, the young adolescent is increasing his range of social

¹ *Op. cit.*, p. 60.

stimuli. He is becoming more sensitive to many social problems which did not stir him before. He is ready to ally himself with causes, to take up the problem of the other fellow, and to champion the interests of the group.

Leadership and social development. All children should have training in leadership and followership. Children differ in the power of the drive of leadership. This is true whether it is the kind that shows itself through intimidating influences or the kind that shows itself through inspiration and encouragement. However, the functioning of leadership must be developed.

It is evident that a number of concepts in general use to define "personality type" become more meaningful when seen in sociometric terms. Leadership, for example, becomes a statement regarding the functional relationships of persons rather than an abstract quality of certain persons as such. Indeed, the door is thrown open for a systematic study of the relation between the capacity to lead in one situation and in another situation. Furthermore, the function of leadership is defined not by *a priori* sociological needs but by the very group which is to be led. This is especially true when the group chooses its leader in terms of a concrete task in which the individual members want to be led. If there is such a thing as a psychology of leadership in the abstract, it will arise from studies in which behavior resemblances of leaders in varying life situations are investigated, in the actual life situation of leading and following.¹

The opportunities afforded in the home and the early training in group work are vital to the functioning of this leadership. Sometimes a child shows marked leadership qualities in the nursery school or kindergarten. He cannot be sure of retaining his leadership if it is based upon the factor of physical domination, because he will sooner or later lose his followers. This type of leadership is usually short-lived at all ages, yet it prevails in all groups for a while.

The older boy or girl must be able to stand up under the test of ability and achievement. A boy must be able to inspire; he cannot be a sissy. He must be able to show some skill. He

¹ G. and L. B. Murphy and F. M. Newcomb, *op. cit.*, p. 313. By permission of Harper & Brothers, New York

must make the team or lead the group in cheering, etc. The girl must be socially attractive. She must be neat and considerate; must show ability in school work or show an interest in working for a cause. Leaders show insight in dealing with other members of the group and are usually slightly superior in one or more traits. This does not mean that the person with abnormally high mentality is destined to become the social leader, since the reverse is often true.

The extrovert by nature and training, with the experience of success during his past efforts to lead, will, if he is selected in the field of his interest, be insured of success as a leader. However, this is based upon the premise that he has a vivid imagination and the ability to perceive and organize the interests common to the group.

MEASUREMENT OF SOCIAL MATURITY

The forces of heredity and those of the complicated and complex environment affect the life and development of the growing child. The child's food, clothing, cries, demands on others, the answer to those demands, his home, his school, his associates, and in general many varied factors and influences affect him from day to day to make him an emerging social being. He is really a fairly helpless creature, put at the mercy of all the environmental forces with which he comes into contact. If he is to survive them all and attain a creditable individual performance, he will have to use wisely some of the drives which he possesses. Because of this, it is difficult to develop a scale which gives a measure of social maturity of the growing child.

In 1935, Dr. Edgar A. Doll of the Training School at Vineland, N. J., published the first formulation of the Vineland Social Maturity Scale.¹ This scale is a standardized device used

principally for measuring the degree to which an individual is capable of looking after himself and of functioning independently of the help of his family and society. It measures the level and degree of general social competence from birth to maturity as a developmental or maturation process.

The items of the scale are arranged in progressive order of difficulty and grouped by year-values according to average total age scores for successive age groups. More specifically, the scale consists of a definite outline of detailed social performances in terms of such actual behavior as self-help, self-direction, socialization, communication, occupation, and locomotion for the different levels of development or maturation. This scale is not a test of social adjustment, or personality, or attitude, or even social success.

THE VINELAND SOCIAL MATURITY SCALE

Basis of the SQ. The Vineland scale is accompanied by detailed instructions which experience has shown make possible an objective evaluation of the extent to which an individual has attained social maturity. The Roman numerals divide the scale into chronological ages for which the various "steps" are normal. Copyright by Dr. E. A. Doll.

The revised scale is printed herewith. Each item of the Scale has been given a categorical designation which is indicated by the following letters:

<i>S H G</i> —self-help general	<i>O</i> —occupation
<i>S H E</i> —self-help eating	<i>C</i> —communication
<i>S H D</i> —self-help dressing	<i>L</i> —locomotion
<i>S D</i> —self-direction	<i>S</i> —socialization

Categories Items 0-1

- | | |
|-------|--------------------|
| C | 1. "Crows"; laughs |
| S H G | 2. Balances head |

- | | |
|-------|--------------------------------|
| S H G | 3. Grasps objects within reach |
|-------|--------------------------------|

- S 4 Reaches for familiar persons
 SHG 5 Rolls over
 SHG 6 Reaches for nearby objects
 O 7 Occupies self unattended
 SHG 8 Sits unsupported
 SHG 9 Pulls self upright
 C 10 "Talks", imitates sounds
 SHE 11 Drinks from cup or glass assisted
 L 12 Moves about on floor
 SHG 13 Grasps with thumb and finger
 S 14 Demands personal attention
 SHG 15 Stands alone
 SHE 16 Does not drool
 C 17 Follows simple instructions

II

- L 18 Walks about room unattended
 O 19 Marks with pencil or crayon
 SHI 20 Masticates food
 SHD 21 Pulls off socks
 O 22 Transfers objects
 SHG 23 Overcome simple obstacles
 O 24 Fetches or carries familiar objects
 SHI 25 Drinks from cup or glass unassisted
 SHG 26 Gives up baby carriage
 S 27 Plays with other children
 SHL 28 Eats with spoon
 L 29 Goes about house or yard
 SHE 30 Discriminates edible substances

- C 31 Uses names of familiar objects
 L 32 Walks upstairs unassisted
 SHE 33 Unwraps candy
 C 34 Talks in short sentences

III

- SHG 35 Asks to go to toilet
 O 36 Initiates own play activities
 SHD 37 Removes coat or dress
 SHL 38 Eats with fork
 SHI 39 Gets drink unassisted
 SHD 40 Dries own hands
 SHG 41 Avoids simple hazards
 SHD 42 Puts on coat or dress unassisted
 O 43 Cuts with scissors
 C 44 Relates experiences

III IV

- I 45 Walks downstairs one step per tread
 S 46 Plays cooperatively at kindergarten level
 SHD 47 Buttons coat or dress
 O 48 Helps with household tasks
 S 49 Performs for others
 SHD 50 Washes hands unaided

IV V

- SHG 51 Cares for self to toilet
 SHD 52 Washes face unassisted
 L 53 Goes about neighborhood unattended
 SHD 54 Dresses self except tying

- O 55 Uses pencil or crayon for drawing
S 56 Plays competitive exercise games
- V-VI
- O 57 Uses skates, sled, wagon
C 58 Prints simple words
S 59 Plays simple table games
SD 60 Is trusted with money
L 61 Goes to school unattended
- VI-VII
- SHE 62 Uses table knife for spreading
C 63 Uses pencil for writing
SHD 64 Bathes self assisted
SHD 65 Goes to bed unassisted
- VII-VIII
- SHG 66 Tells time to quarter hour
SHF 67 Uses table knife for cutting
S 68 Disavows hit and Santa Claus
S 69 Participates in pre-adolescent play
SHD 70 Combs or brushes hair
- VIII-IX
- O 71 Uses tools or utensils
O 72 Does routine household tasks
C 73 Reads on own initiative
SHD 74 Bathes self unaided
- IX-X
- SHE 75 Cares for self at table
SD 76 Makes minor purchases
- L 77 Goes about home town freely
- X-XI
- C 78 Writes occasional short letters
C 79 Makes telephone calls
O 80 Does small remunerative work
C 81 Answers ads purchases by mail
- XI-XII
- O 82 Does simple creative work
SD 83 Is left to care for self or others
C 84 Enjoys books newspapers magazines
- XII-XV
- S 85 Plays difficult games
SHD 86 Exercises complete care of dress
SD 87 Buys own clothing accessories
S 88 Engages in adolescent group activities
O 89 Performs responsible routine chores
- XV-XVIII
- C 90 Communicates by letter
C 91 Follows current events
L 92 Goes to nearby places alone
SD 93 Goes out unsupervised daytime
SD 94 Has own spending money
SD 95 Buys all own clothing

XVIII-XX

- L 96. Goes to distant points alone
- S D 97. Looks after own health
- O 98. Has a job or continues schooling
- S D 99. Goes out nights unrestricted
- S D 100. Controls own major expenditures
- S D 101. Assumes personal responsibility

XX-XXV

- S D 102. Uses money providently
- S 103. Assumes responsibilities beyond own needs
- S 104. Contributes to social welfare
- S D 105. Provides for future

XXV+

- O 106. Performs skilled work
- O 107. Engages in beneficial recreation
- O 108. Systematizes own work
- S 109. Inspires confidence
- S 110. Promotes civic progress
- O 111. Supervises occupational pursuits
- S D 112. Purchases for others
- O 113. Directs or manages affairs of others
- O 114. Performs expert or professional work
- S 115. Shares community responsibility
- O 116. Creates own opportunities
- S 117. Advances general welfare

FACTORS AFFECTING SOCIAL DEVELOPMENT

Social maturity is dependent upon the proper social environment. There are certain special factors of the environment and organized social agencies which have definite and specific influence upon the direction which the child's social growth and understanding will follow. A number of these factors have already been treated and others are presented below.

Social order. In the large social unit is the social order which has importance in developing ideals and group attitudes connected with residence in a rural, urban town or city section, or citizenship in a dictatorship or a democracy. The child grows into his citizenship attitudes and will be a particular kind of citizen without knowing how it happened.

Health and recreation. Children like to play with other children who are physically able to play. Strength and vigor

are good positive stimuli which prompt children to further activity. The extreme activity of the child puts a demand of equal activity upon his playmate. He desires and needs a friend who can give him wholesome competition in play. The give and take of play is based upon many health factors. The child who is well and strong with no physical deformities has a distinct advantage over the one who may be crippled or low in vitality. If a child does not have physical ability, his acts are limited in terms of his difficulty and his playmates must adjust their behavior to meet his requirements. The attitudes in the group are bound to be reflected in his behavior and he will be certain to develop a social sense different from that of the boy who can be normally active and engage in free play. Lack of strength causes an early development of fear of the other person. The child may be led to feel that he is inferior and be thrown out of all competition, thus developing a strong feeling of inferiority which will interfere with his social training. He should be provided with natural, spontaneous play activities since these are instrumental, to a large degree, in developing social qualities and sociability.

Children need back yards to play in, and a place of their own for games on rainy and cold days. Children in congested areas are usually forced to go to public playgrounds and community centers, when available, for their companionship with other boys and girls. Recreation leaders recognize the importance of relating the public program to family life and believe that there should be more activities which parents and children can share. They believe that the park playgrounds and swimming pools should sponsor community nights to develop a common interest in the game and skills of the children. They believe it is important that members of the family should play together with the children, but they need not necessarily play the same games. Children need to be encouraged yet let alone in their play. The social qualities developed through properly supervised free play are those the child will use throughout his life.

Family environment. The early and most important environment of the child is highly restricted. The child is born into the home as a first, second, third, fourth, fifth, etc., child of the family. As an individual, he is the same person but as a person he faces a totally different environment depending upon which one of the sequence he happens to be. The first child gains all the attention of the fond parents and makes great strides in social development until the coming of the second child. The newborn infant now requires the attention, and in spite of themselves the parents' attitudes change toward the first. The first child, not being able to comprehend it all, develops a feeling that he is less desirable in the family circle. He will invent situations to command attention. If these become too undesirable, the parents inflict punishment upon him and thus stimulate the beginning of an attitude of antagonism between the parents and the child. It will be observed that this does not follow as a matter of course. The parents may not welcome the second child and may continue that resentment during the early years of his life, thereby putting him at a great disadvantage in the presence of the older, the favored one.

As the child grows older he is able to compensate for these environmental forces through his opportunities of playing with his friends in their homes or in his home. Parents should encourage this and should make it a practice to participate in games in which all members of the family can compete.

Just as the child may be expected to help with the household chores so should he be expected to have a place in the conversation and family discussions. He should not be permitted to monopolize the conversation nor should he be called upon to remain a listener. If he is to have proper training in sociability he should begin that training in the home. Fortunate is the child who has had the experience in the home of desirable visitors of all ages. He needs somebody to show a kindly interest in him before he can go out and extend that feeling and attitude toward others. The radio selections to be heard

should not be those selected by the parents without regard for the interests of the child.

Camps, clubs, gangs. In the home, the child has always had some one who loved him to turn to for comfort. Outside the home he may or may not find those who will take a sympathetic attitude toward his difficult problems. His chief concern then is to find somebody who will at least listen to him. The latter is likely to have a friend and thus children find a common interest and group together for cooperation. Due to the fact that many parents work away from home, the child's need for group activity is more important today than it was formerly.

For a long time there was a concerted effort to crush efforts of children to organize for group life. Gangs, especially, were on the list to be dissolved whenever discovered. However, it was found that the more the adults tried to interfere with that group life the more powerful it became. Finally the leaders of young people began to sponsor various organized groups under trained leadership.¹ The Boy Scouts, the Girl Scouts, the Camp Fire Girls, the Y.M.C.A., the Four-H Clubs, the one-hundred-and-one clubs formed in various schools are wholesome efforts on the part of adults to try to satisfy the group life of the child. However, the children still organize groups in their block, utilizing their own code, and often using quarters in basements of homes, sometimes referred to as "cellar clubs," in order to satisfy their desire to form into groups of their own. Again the adults realize that they have not met the situation and are trying to solve the problem by giving some dignity to these "cellar clubs."

Thrasher² in his study of gang life has shown that gangs

thrived in those communities where boys were thrown on their own resources and had real life problems to face. He found less juvenile delinquency and less gang activity in Chicago as the distance from the Loop increased. Boys in these districts thought that they were organizing for self-protection. They were in conflict with organized authority and were attempting to solve their own problems as they thought best.

Camps afford the boy or girl a place to breathe fresh air and develop into a healthy robust youngster. But more important, they serve a need of the child early in life by enabling him to see new faces, and affording a place to be away from the parents for a brief time. Both are equally important. He needs this brief period each year to wean himself from the parents, and especially to help the parents gradually lose some of the possessiveness which they may have for him. According to Mason,¹ "Intimate contact with many fine wholesome companions for eight weeks in camp—different companions from those of the Winter—is one of the most constructive experiences that can enter the life of a boy or a girl."

CONDUCT DISORDERS

Conduct disorder arises out of conflicts between the child's behavior and certain behavior patterns generally accepted as socially desirable. The conduct of a child often becomes a "disorder" only because it interferes with the behavior of other members in the group and interferes with the peace and rights of others. Consequently, active expressive behavior is frowned upon as being undesirable, while equally serious passive, nondisturbing behavior is overlooked or actually approved. A mother of a large family, whose day is filled with many routine chores and to whom every minute is precious, does not want to be annoyed by bids for attention from her children, such as boisterous play, crying for food or toys, or loud objections to having tasks assigned. These acts are "naughty" and the mother complains that she can do nothing

with her unruly child. The quiet boy or girl who never gets in the way, who does not seem interested in play, who speaks when he is spoken to, is the mother's pride.

A teacher of a class of forty or fifty pupils, with a full syllabus to cover during the term, does not have time or energy to give to those pupils who talk out in class, punch a seatmate, or find it difficult to sit still without wriggling. They are disorderly, their conduct is unsatisfactory, because they interfere with the class routine. The child who sits still, who is never a disturbing factor in the class, even though he takes little part in regular class activities, is rated excellent in conduct and is looked upon as a "model" pupil.

The wide differences in experience and personality of teachers and social leaders are bound to make for differences in their reaction to the behavior of those whom they supervise. For example, parents who were strictly disciplined, deprived of educational advantages, or who suffered reverses of one kind or another, will react to their children's behavior in a different way from parents who had not had those experiences. Teachers likewise go to their classes with backgrounds of experience that are reflected to some extent in the management of the children. For an explanation of a behavior problem we must examine both the individual who manifests it and the social order that does not accept the behavior.

Maladjustments mental hygienists and teachers. A comparison of the ratings of 511 teachers and thirty mental hygienists on the relative behavior problems in children was made by E. K. Wickman.¹ He points out that, "In making the comparison between the attitudes of mental hygienists and teachers, it is essential to bear in mind the differences in professional interests. The focus of attention and interest for the mental hygienist is the social, emotional adjustment of the individual. The chief interest of the teacher is in the educational accomplishments of children." He found that behavior

problems were rated as serious by both groups, but there was a great difference of opinion as to what constitutes serious conduct disorders.

A study of Wickman's charts 16 and 17¹ shows that the two groups agree on the relative importance or unimportance of certain traits. Those considered by both groups to be of considerable importance are:

Cruelty, bullying	Nervousness
Easily discouraged	Selfishness
Suggestible	Physical coward
Stubbornness	Sullenness
Tattling	

Those traits considered of slight importance by both groups are:

Enuresis	Restlessness
Thoughtlessness	Imaginative lying
Attracting attention	Quarrelsomeness
Inquisitiveness	

Some of the traits considered relatively more important by one group than by the other are indicated in the following tabulation

TEACHER	MENTAL HYGIENIST
Masturbation	Shyness
Profanity	Suspicion
Smoking	Unsocialness
Destroying school property	Sensitiveness
Obscene notes, talk	Fearfulness
Impertinence	Unhappy, depressed
Disobedience	Overcritical of others
Disorderly in class	Resentfulness
Heterosexual activity	Dreaminess
Whispering	Domineering

The characteristics of ideal behavior for children as considered by the teacher take the direction of complete submis-

sion to authority, order, routine, and the immediate wishes of the teacher, while those considered by the mental hygienist take the direction of the effect of the trait upon the future development of the child and upon his ability to make desirable social and emotional adjustments.

The importance of the social and emotional development of the child is commanding the attention of the educators along with the need for training in intellectual and physical development. There is a desire to evaluate child behavior in terms of child welfare.

To meet the expanding needs of children in solving their adjustment problems we need to train the personnel who work with the children. The training of the teacher must involve the use of the school as a laboratory. We cannot hope to teach people how to deal with others through instruction undertaken wholly in the college classroom. By use of the school as a laboratory is meant more than merely using it to meet a formal state requirement of student teaching. If this preparation and training of new teachers is carefully done, it should prove more productive than attempts to re-educate teachers who have well-established undesirable habit patterns which they utilize in dealing with the problems of child behavior.

SUMMARY

At birth a child has his complete social development ahead of him. His social world will be comprised of all the forces about him which affect him in his responses to other persons. Even though at first he is unaware of most social stimuli, his maturation makes him increasingly receptive to the respective factors which influence him in developing his social behavior. He begins with very simple responses to people and progresses, through the years, as his ability and the opportunities permit.

During his early school life the child is given a chance to appreciate his power as an individual and is having developed within him some of the factors of leadership. The latter will

be strengthened as he gains respect for the other person's point of view. An attempt should be made to develop correct values. By guiding him through many and varied social situations the teacher should be able to help him adjust his social drives in a positive way. The proper stimuli and situations should be given to ensure wholesome expression of feelings, attitudes, and emotions.

The social development of the child rests upon such factors as the social order, health, the family environment, opportunities afforded through the school and through such organized groups outside the school or home as clubs, camps, the gang, etc. Every effort must be made to provide proper facilities and to give opportunities to the growing child to satisfy his inner urges toward approval, gregariousness, recognition, and success.

If a child had he has been made that way. He has a strong desire to do what is right, to be good. However, once he learns that his behavior is being misunderstood or that he is unduly thwarted he rebels against the rules and regulations of the existing order and becomes a problem child.

The teacher and the mental hygienist do not always agree upon the type of behavior which is the more serious. The chief reason for this is that each is emphasizing a certain aspect of the social order. The teacher expects respect for the classroom requirements, while the mental hygienist is concerned with the child's personal and emotional adjustment.

QUESTIONS AND EXERCISES

1. Discuss the qualities of a good social leader.
2. Show how individual attitudes are a result of the individual and his environment.
3. Discuss the interrelationship of several aspects of social growth and development.
4. Outline five practices (a) which you have observed teachers follow which you believe were of positive value to a child, also five (b) which you believe had an unwholesome effect upon the child. Show how you might correct the practices stated under (b).

5. If your advice were sought about the adoption of a three-year-old child, what would you suggest regarding his social background?
6. Describe ways in which new emotions affect the life of the child as he develops.
7. Should different social experiences be provided for children of large differences in mental ability? Discuss.
8. Should the school provide social situations adequate to meet the needs of all normal youth of school age? Discuss.
9. What is the relationship between social development and discipline?
10. If you could return to relive your early adolescent life, what would you ask the social order to do for you that it did not provide when you were in your early teens?
11. How can you help a young adolescent utilize to the fullest his potential social drive?
12. Show how insecurity in affection may affect the life of a growing person.
13. How far shall the school go to help a child in his adjustment problem if the parents do not welcome the help?
14. How may teachers cooperate with the parents in inculcating desirable attitudes in the child?
15. Discuss the value of having a teacher who takes a personal interest in the children in her class.
16. Indicate some of the social dangers which should be avoided in the nursery school and kindergarten.

Chapter 11

Character Development in Children

Character is one of the most significant aspects of personality and its development, a major task of society. This chapter is concerned with the psychological principles upon which character education may be founded. First, there is a consideration of the nature of character and the factors that determine it. Second, there is a discussion of various practical issues in the development of character in children. Third, there is an account of the procedures used in character education. Finally, there is a brief review of methods employed in the measurement of character.

THE NATURE OF CHARACTER

Character as a quality of the total personality. An individual's character denotes the quality of his relations to others. If he acts in such a way as to increase the worthy satisfactions of other people, he is said to have a good character. In a negative sense, if he does not impoverish the lives of his fellow men, he may have a good character. The word is used, however, in a much more dynamic sense than that. A person whose character is good not only observes the moral code but also stimulates other persons to the most admirable way of life. He does the best thing possible (as he sees it) in each situation and tries to do it better the next time.

Implications of the concept of character. This word has a broad connotation. First of all, it implies an inner aspect

which may be designated by such terms as want, purpose, or "will." In addition, there is an outer aspect of character which is often referred to as abilities, conduct, or actions. Although the inner and the outer aspects of character may be discussed separately, we should not lose sight of the fact that this distinction is artificial. It is important that most of the individual's character values should be in harmony with the standards and ideals of the group and of society at large. If proper consideration were given to the manner in which any act influences the greatest number of people, there would be less likelihood of conflict between the individual and society.

Throughout this discussion we must bear in mind the fact that character is an evaluative concept. The standard of reference is the greatest and most permanent good for the largest number of individuals who are affected. The achievement of good character necessitates a consideration of specific and general purposes that accomplish this end. The individual must learn to utilize all his capacities and experience toward the goal of benefiting the greatest number of persons by his behavior in every situation.

FACTORS DETERMINING CHARACTER

It should be emphasized that the factors that determine character operate not singly but conjointly. Biological heredity is one significant factor which is largely responsible for the basic make-up of the individual. The physical and social environment of the child are also important in determining the growth of character. Even climate has some influence upon the kind of responses an individual makes. Home and school are, of course, exceedingly influential. In fact, all the social institutions with which the child comes into contact change and modify his conduct. The child assimilates and shares in the culture and the standards of his community. Furthermore, each community has its own customs and standards, to which the child may or may not conform.

Health is another important factor. As a rule, good char-

acter is an accompaniment of good health. In turn, good health is dependent upon glandular functions, nutritional status, and normal growth. It is also necessary to take into account the socio-economic status, a factor never to be overlooked.

Character development is dependent upon wholesome and worth-while experiences. Through such experiences the child learns to make right choices and acquires the ability to adapt himself to a broadening environment. He must be given the opportunity to make right choices and to develop worthy preferences. Only through experiences can the child learn this ability and develop his "will" (ability to make choices). He must have training in knowledge of the outcomes of certain types of behavior—how they affect his own life and how they influence other people. This sort of training develops foresight and stimulates creative thinking.

THEORIES OF CHARACTER AND BASIC PRINCIPLES

It is perhaps inevitable that, over extended periods of time, incorrect and misleading conceptions of character should develop. Frequently, character development has been looked upon as a matter of acquiring certain traits, habits, factors, patterns, or even acquiring a certain kind of self. The difficulty with the development of traits is that trait names are ambiguous, and any list of traits becomes a hodge-podge of descriptive terms. Each of these traits is often taken in the sense of an absolute. Traits or virtues are relative to the conditions under which the child lives. If traits or virtues are taken as absolute standards, there may be many situations when such action would be positively unmoral.

Another theory holds that the child should develop a hierarchy of habits. It is true that much of life is routinized, yet the difficulty is that situations are constantly changing. An absolute habit theory would be adequate only in a static world. But habit is not all liability. In fact, an important point in child guidance and control is the building up of

habits of responding with satisfaction to socially approved behavior and with dissatisfaction to acts out of harmony with values developed by society for the common good.

Some people believe that character is a matter of following ethical precepts. According to this view, character education consists of admonitions and exhortations. The aim is to organize the proper sentiments so that the child will obey the approved code of behavior. Of course, this view has much to commend it. There is, however, a pertinent objection to such a theory of character development. As Hutshorne¹ has suggested, character education based upon such a view is primarily a matter of propaganda and allows no place for creative intelligence.

Character development has also been explained as a result of the power of inhibition. It is assumed that the individual has the ability to inhibit his responses, and that he accordingly develops habits of refusing to act or of making more appropriate choices in certain situations. In this view, also, there is an undoubted measure of truth. The difficulty is, however, that this theory implies a confidence in an established absolute value. Accordingly, it tends to substitute dogma for scientific investigations. It also leaves no room for the use of creative intelligence in character formation.

Several theories suggest that one mark of character is the ability of self-direction for self-chosen ends. Thus, character may be viewed as purposeful activity, as the unity of the self, and as an organized or integrated aspect of the individual. Therefore, character may be revealed by the purposes that motivate the child, by what the child does in various situations, and by the degree of consistency which distinguishes the behavior under various circumstances. This view implies that character is the ability of the individual to adjust to changing environments in such a manner as to recognize worthy goals, to note the directions of each act, and to foresee consequences.

A potent view of character is that it is a kind of perfection. The child is good to the degree that he makes no wrong choices. Related to this theory is the notion that character means a conformity to community standards. Of course, character actually implies much more than conformity. Conceivably, the person of highest character may be an outcast from his community. In short, none of these theories furnishes a sound basis upon which to define character, but all of them make significant contributions to our understanding of what character is.

Certainly, all these various theories suggest fundamental principles upon which character education should proceed. The child must, indeed, be familiar with the standards of high ethical conduct. Therefore, he must have a wide background of knowledge which will enable him to make right choices. In association with other people he must function on a high level, hence he must be taught to respect the rights of others. He must mature emotionally as well as physically, and he must be given practice in foreseeing the consequences of his actions. Ability to weigh facts, to anticipate the outcomes of behavior, and to choose in the light of calm deliberation is essential for the growth of character.

In general, it may be said that the person of good character is socially oriented with reference to basic principles, values, or ideals. He is persistent in the achievement of worth purposes, he is reasonably consistent in motives and conduct, and he conforms to the best mores of his group. Furthermore, he has power to deliberate, to evaluate alternatives, to choose wisely, and to reconstruct his behavior accordingly. By no means a passive or supine individual, the person of good character is energetic in serving others. In brief, therefore, character is really an effective functioning in all social relationships.

DEVELOPMENT OF CHARACTER

Original nature and character. The child is born with capacity for growth through maturation and experience. It is

exceedingly important in character education that parents and teachers take maturation into account. In many instances, materials and experiences have been given to children before they have reached an adequate degree of maturation to benefit thereby. It is important to know that maturation is a factor in the mental and the moral social growth of every child. Often those concerned about children's behavior become impatient and discouraged with the seemingly slow progress made. Obviously, they forget that all growth takes place slowly.

Occasionally, to be sure, growth in children appears to a superficial observer as a sudden, almost overnight development. Yet, as a matter of fact, growth never takes place in that way. Before the child can display certain kinds of conduct he must have attained the requisite maturity. Therefore, to provide experiences and activities suited to the child's level of development is one of the important duties of parents and teachers. Observations of children in their attempts to adjust to their surroundings and to their social environments will supply many illustrations of this point.

Illustrations of levels of development. A few examples may help to illustrate the common lack of understanding about child development. A six-year-old child was assigned the task of memorizing a number of Scriptural passages. On frequent occasions the child recited certain of these verses before large groups of adults in a Sunday school. Through experience the youngster developed considerable skill in the memorizing and reciting, but she had very little understanding of the meaning of the passages she so glibly recited. Her parents, however, had made this requirement on the assumption that such an experience would build the child's character. Clearly, this is an instance of failure to realize that the usefulness of an experience in character development is dependent upon the child's level of maturation.

John, a seven-year-old, had a number of cherished toys, including a tricycle, a wagon, and a little lawn mower. When on one occasion he refused to share these possessions with some

little friends, they quarreled and went home. John then complained to his mother, who replied, "If we expect to have friends to play with, we should permit them to share our toys." Later, when the children came back, John gladly allowed them to use his playthings, and they enjoyed a happy time together. John's mother had used a concrete situation to teach him something about the value of sharing things with others. The interesting feature of this illustration is that John's mother did not seek to influence him by precept but gave a practical example of the advantage and joy of sharing possessions.

Recently the writer had an opportunity to observe the behavior of an eight-year-old boy who had found a fountain pen near the school. The boy had received instruction about what should be done with found articles, and he had heard other children tell what they would do in such a case. The boy reasoned: "This is my pen because 'finders are keepers.' Yet if I myself had lost this pen, I would want the finder to return it to me. I'll give it to my teacher and ask her to find the owner." Evidently, as a result of all his experiences, this child weighed and considered the consequences of the various courses of action open to him. If, however, he had been three or four years younger he might have acted quite differently. Perhaps he might have picked up the pen, played with it a while, and then placed it among his possessions. Certainly a four-year-old would not be aware of any problem or reflect much about the rights of others. For a very young child to be branded as dishonest in such a case would indicate a failure to take into account the principles of child development. The point to emphasize here is that in one instance a child may have reached a level of maturation and experience where a certain type of conduct may be expected, but to require the same sort of conduct from a child half that age is to overlook the growth factor.

This point is brought out by Carleton Washburne when he remarks that "stages" or levels of development

. . . indicate a part of a continuous process of growth, differentiation, and assimilation taking place as a result of the interaction of the individual organism and the environment. We have recognized that a level of development may be as clearly a defined stage as the unfolding of a flower from a bud or the emergence of a moth from a cocoon, but that, on the other hand, it may be only an artificially blocked off segment of a continuous process, as would be the state of development of a tree between April 15 and July 15, as compared with the state of its development between July 15 and October 15.¹

Certain implications in the foregoing discussion should be brought out at this point. First, the child has a number of potentialities which may develop over a long period of time. Second, the child is not altogether a free social being. Home, school, church, state, and other social institutions impose certain restrictions. These restrictions aid society in its preparation of youth for full membership in the adult community. Moreover, the mature adult knows that there are customs and laws to which he must conform, and individuals to whom he must adjust. Consequently, he is well aware of the fact that children must be trained to adapt themselves to these situations. Third, it is clear that most children will respond in approved ways when appropriate incentives are used. Character education, therefore, involves the development of worthy motives.

Teachers and parents must remember that they are concerned with the long-time development of the child. Constantly, they must take into account the sort of individual a child will become on reaching mature life. In other words, character education is a dynamic, forward-looking procedure. We need to learn more about the steps whereby an ambitious boy becomes a disgruntled man at fifty. By all means, we should know what leads young children to develop into juvenile delinquents. Cross-sectional studies often obscure

¹ C. Washburne, "Introduction" to the *Thirty-Eighth Yearbook of the National Society for the Study of Education*, Bloomington, Public School Publishing Co., 1939, Part I, p. 5. Quoted by permission of the Society.

this aspect of character education and lead us to consider the problem only in relation to a given level of development.

EDUCATING FOR CHARACTER

Basis for a theory of character education. A sound theory of character education must be built out of the discoveries of science. The most important scientific findings for this purpose are those that relate to the mental and the physical growth of the child. Likewise, it is important to found the theory upon a faith in the intelligence of the child. We must believe that the child will develop character by facing and solving problems on his own level which have to do with achieving the greatest good for himself and his group.

All education contributes to character. No matter where it is found or how it takes place, all education must be made to contribute to the building of character. There is no curriculum or method that will produce character by magic. On the contrary, every experience in the home, at church, on the playground, or at school presents an opportunity for character development. Character is not produced in a vacuum; it is built through wholehearted participation in desirable social situations. The child's character develops as he shares in the experiences of others and learns to cooperate with them for worthy ends.

The school. One of the most important institutions concerned with character development is the school. Except for the home, no other institution occupies such a strategic position in the life of the child. The child is under its influence from five to six hours a day, five days a week, thirty-six to forty weeks a year. When one contemplates the fact that little is accomplished by way of character development in many present-day American homes, as well as the fact that many children do not come into contact with the church, the opportunity and the responsibility of the school are obvious.

Many teachers believe that character education may be fostered by devoting special periods to direct moral instruc-

tion. One of the chief merits of such a plan is that it is definite and specific. It also engenders enthusiasm for the work, since it provides the conditions suitable for sustained attention. When direct moral instruction is used, the teacher is responsible for providing the time and place, so the development of character becomes one of the avowed objectives of the school. Often, the discussion method is used advantageously to focus attention upon problems and situations in which character is involved. Provision ought to be made for the discussion of actual character situations so that the pupils may understand and appreciate causal relationships. The child should be helped to understand that morality is only a name to designate the rules or standards by which the game of right living is played.

Direct moral instruction is important in the activities of such organizations as the Boy Scouts, Girl Scouts, 4-H Clubs, Camp Fire Girls, Pathfinders, and the Junior Red Cross. These groups make use of oaths, slogans, rules, and projects. Their codes are potent factors in the determination of right conduct. Membership in these groups may involve the problem of divided loyalty or even the destruction of the individual's selfhood: yet if the standards of the organization are fully understood, these conflicts often involve character education of the highest type. Often, through the influence of good organizations, the attitudes of boys and girls are changed from indifference and cynicism to enthusiastic participation in worthy activities.

In all types of character education it is exceedingly important that the procedures should be democratic rather than autocratic. There is a tendency in some quarters to foist upon the child certain adult patterns which have been judged to be good. Whatever merits such adult patterns may have, this procedure does not contribute to the democratic living of boys and girls. It is important that boys and girls have a voice in making the standards and in judging the values of various types of behavior. In matters of personality development,

adjustment, and choices, the individual child needs sympathetic counsel and guidance. This direction the adult group leaders are often able to give.

In character development the teacher plays an important role. Character education requires a teacher who is alert to seize all opportunities which lend themselves to moral growth. Not only is he solicitous for the character development of his pupils, but also he seeks to utilize all experiences and situations to provide for his own growth of character. He should be a wholesome personality, with a happy, enthusiastic outlook upon life. His influence must be positive and it must, so far as possible, exemplify the attributes and the qualities of good character.

Of course, all the objectives of the school should be such that their achievement will result in the development of all phases of the child's personality. All subjects and activities should be interrelated in order that the growth of character may be assured. Classroom periods, club activities, athletics, and other phases of school life provide many opportunities for character development. In most schools the procedure is to utilize all these functions in such a manner as to develop the characters of pupils. This method is usually called the indirect procedure in character education. The principal difficulties with it are that the goals are not always clearly defined and that the teachers do not focus all their efforts upon the remote outcomes to be achieved by the school. Immediate tasks engross the attention of pupils and teachers; hence the basic outcomes of the educational program are obscured.

The home. The first social institution to affect the development of the child is the home. Its influence in character development can hardly be overemphasized. Some parents are unambitious for their children; others are overambitious. Back of the problem child is a problem home; and back of the wholesome child is a wholesome home. Certainly the child tends to reflect the conditions and circumstances of its home. If the parents are maladjusted and unhappy, the child may

never have an opportunity to develop a wholesome personality. Recent developments in psychology and psychiatry have stressed again and again the importance of formative influences during the early years of a child's life. During these years the home is naturally the most dominant force in shaping the character development of the child. Those interested in character development must take a realistic view of the average home and recognize the fact that all is not "sweetness and light." Sometimes the best procedure for character education is to attempt to bring parents to a better type of adjustment.

The church. One of the oldest of all institutions emphasizing character education is the church. Church leaders devote more time and effort to direct methods of character development than do the leaders of all other agencies. Under the best conditions, the church is still an influential factor in the character development of children. One must, however, recognize the fact that the church no longer exerts the direct influence over the lives of people it formerly did. The amount of time given by the church to direct procedures in character education is, of course, much less than that given in the best public schools. If the average child went to Sunday school an hour a week, he would obtain in a year less instruction than the public school gives in about two weeks. Since absences are frequent and since much time is taken up by "opening and closing exercises," twenty hours a year would probably be a fair estimate of the amount of time given to ethical instruction. Furthermore, great numbers of children seldom or never attend Sunday school at all.

The church has made its influence felt by other agencies concerned with character development. The reading of the Bible in public schools is an illustration. Many church leaders have contended that such experiences develop good character. The Bible is a source of valuable subject matter and experience, and many passages do have character training value. It is important, however, that the Scriptural readings pertain to the problems that the child is facing. Like all other agencies

for character education, the church should base its instruction procedures upon the findings of educational and child psychologists. There is clear evidence that church leaders are now becoming well aware of the importance of developing a sound program of religious education and that they are becoming more interested in the everyday problems of children.

One significant development in church procedures is the recognition of the value of activities in character education of children. Hitherto the church had relied too much upon exhortation and precept. Recently the writer studied the Children's Day literature published by leading Protestant denominations and observed about twenty local Children's Day programs. This study revealed some evidence of a trend toward modifying the traditional program of songs and recitations. Apparently there is a realization of the importance of learning through purposeful activities instead of giving lip service to high ideals couched in language beyond the capacity of the child to understand. Instead of setting aside one day in the year for the entertainment of adults, some churches are now designating several periods when parents are invited to observe in the church school. In some churches classes of young married people consider the problems involved in the character development of their children.

There is evidence that the church school is revising its program and methodology in the light of progress made in the public school. Its effectiveness is greatly increased when methods, subject matter, and activities are adapted to the developmental levels of the children. Now, many church schools are using graded materials vital to the character education of pupils. Actual experiences such as excursions, dramatizations, and stories are found to be helpful. The traditional Sunday school, taught by devout but untrained people, is still very common, but many churches now present a program of religious education of inestimable value in character development.

The Daily Vacation Bible School is a church-sponsored

activity that has become popular in many communities. These schools are conducted during the summer months when the children have little, if any, organized activity. Their work includes activities built around the children's experiences and interests. They offer a unique opportunity to give special emphasis to character education. In this undertaking, as in all other programs, the church should work in harmony with other agencies seeking to foster the character development of the children. Because of its great importance as an institution, the church should furnish the lead and direction in all constructive work for the upbuilding of character. To accomplish this purpose, church leaders must have a sound knowledge of children.

Other community influences. The influence of the motion pictures should not be overlooked. The investigation carried on several years ago, under the auspices of the Motion Picture Research Council,¹ resulted in the accumulation of much data which indicated that movies have a marked effect upon the emotions, attitudes, and overt behavior of children. Many of the most important findings from this study have been presented succinctly and interestingly by Forman.² It is obvious that motion pictures are a potent force in determining the character growth of children. Children certainly need counsel about selecting those pictures which will foster wholesome, desirable behavior. Unfortunately, some parents send their children out to the corner theater to get them out of the house. Certain movies unquestionably have a bad effect upon children, and as long as such pictures are exhibited children should be kept from seeing them. The guide in the *Christian Century* is an example of helpful, frank information about the possible effects of certain new motion pictures upon children, and *Parent's Magazine* also gives a list of current pictures appropriate to various age levels of children.

Parents and teachers have an obligation to secure better

motion pictures for their communities. This purpose requires effective group action such as that of the Roman Catholic Church a few years ago when it demanded the elimination of cheap, vulgar pictures. Some helpful suggestions on selection and appreciation of motion pictures are given by Dale.¹ These might be used in training children in more discriminating judgments and greater appreciation of pictures.

Another potent influence in character education is the radio. That it has an important effect upon character development cannot be overlooked. One writer has pointed out,

There is every reason to believe that the listening activities of children are more vivid and more potent than their reading experiences. Casual questioning of almost any child reveals his keen interest in certain favorite programs. He eagerly recounts the latest incidents in the lives of his ether heroes, and retells the gags of his favorite comedians.

Although it is true that there are some commendable programs for children, these are not the only ones to which young children listen. Many so-called children's programs are not adapted to the needs of their audiences. Moreover, children listen to programs intended primarily for adults. Not a few of these programs seem to be positively harmful in their effect upon impressionable young people.

Those interested in character development must help children to discriminate and to select radio programs that tend to foster the development of wholesome personality. This ability is not acquired by fiat. Of course parents may select what programs their own children may hear, but this procedure often leads to dissension and wrong attitudes. Parents and teachers are more likely to help the child when they appeal to his intelligence and teach him to discriminate between good and bad programs. This may be done by listening to programs with children, and then discussing the programs with them.

The same technique is of use in connection with motion pictures.

Other community organizations and activities such as the Y.M.C.A., the Y.W.C.A., the Scouts, and various clubs also contribute much to character development. Parents and teachers ought to be familiar with the procedures and objectives of these organizations. Through the right type of leadership the activities of these groups may be made to contribute a great deal to the character development of children. When such places as pool rooms, clubhouses, or swimming pools are improperly supervised, they tend to destroy other wholesome community influences. An enlightened community spirit may do much to eliminate community forces that unmake character and to strengthen the power of those that upbuild character.

EVALUATION OF CHARACTER

Tests. Various instruments have been devised for the purpose of measuring character. Many of them are in the form of paper and pencil tests which sample knowledge or discover various types of conduct. Another form is the rating scale, often in the form of a series of questions. Does he return borrowed articles? Does he work independently? Is he persistent? The "guess who" test is an ingenious procedure in which an activity or a person is described. The children then guess who among their associates best fits the description. There are scales whereby the child may rate himself on various character traits, and thus, presumably, commence to think about the matter of character growth. Still another form of test consists of placing the children in situations where their conduct may be observed. Deductions indicative of the child's character may then be made on the basis of data accumulated through observations of many children in similar situations.¹

Limitations of the tests. There are several disadvantages in the use of tests to determine the total character of an individual. Many tests must be given before much real significance can be attached to the results. Administration of tests is a costly procedure; hence some communities cannot afford to undertake an extensive study through testing. Although the correlations among various tests appear to be fairly high when the situations are carefully controlled, a slight change in the situations tends to change the relationships among test scores. Since in real life no two situations are ever exactly the same, this may be an important objection. The true test of character comes in actual life situations, not in artificial test situations. The use of tests, however, has contributed much to our knowledge of character development, and these criticisms are not to be construed as attempts to belittle research in the field of character development.

Other forms of evaluation. Careful observation of how children behave in different situations is a useful method of character evaluation. Sometimes an anecdote reveals a great deal about the character of a child. Case histories and genetic records portray helpful information. In general, we ought to have as many observations of the child in real life situations as possible. Questionnaires, school records, check lists, and biographies are useful procedures in character evaluation. We must remember that character is a function of the situation facing the child, of the values he has learned, and of his degree of understanding. Furthermore, character is not a separate trait that may be isolated for laboratory study. On the contrary, it involves a consideration of the *whole* child.

QUESTIONS AND EXERCISES

1. Older people sometimes affirm that the McGuffey readers more adequately provided for character education than is true of many modern reading books. Upon what psychological basis did the McGuffey readers provide for character education? What are the principal criticisms of this method of character education?
2. Suggest how schools, homes, and churches of a community

might coordinate their efforts for the character education of the children.

3. From your observation of children in a home, collect five or six situations which provided opportunities for character development. Were these opportunities utilized? How? How might they have been utilized to greater advantage?
4. Observe an elementary classroom period. What opportunities for character education did you see? What use did the teacher make of them? What would you have done?
5. In some homes the children tend to monopolize conversation at the table. What measures should parents take to teach children to share properly in table conversation?
6. Suppose that a six-year-old boy takes some toys from the counter in a five-and-ten. His mother discovers the articles when he returns home. Is the boy a thief? What should his parents do? Should he be punished?
7. In a second grade group there are two boys who attend the movies nearly every evening. Their parents work until late every day; hence the boys are unsupervised. At school these boys tell other children about murder scenes, robberies, and other lurid episodes of the movies. Some of the children become quite upset emotionally over these recitals. How would you deal with this problem?
8. Select three young children with whom you are acquainted and evaluate their character. What procedures do you use in obtaining the estimates? Report several anecdotes about each child which reveal character.
9. What is the relationship between intelligence and character? Look up the evidence and find out whether you are correct in your opinions.
10. Does the memorization of codes, creeds, and Bible passages help in forming good character? Explain in full.
11. How should teachers and parents teach children to inhibit displays of anger or dislike? What would you do with a child having a tantrum?
12. Show that temperamental children are usually a reflection of unstable parents and teachers. Can you cite some examples?
13. Is there any basis for the belief that children who receive a great deal of assistance from adults are likely to become spoiled? Explain and illustrate.
14. Give some examples of overindulgent parents. What is likely to be the effect on the children's character?

Chapter 12

Religious Development of Children

The enrichment of child life and child personality through significant religious experiences appeals to many persons as a very difficult problem whose effective solution requires their best efforts, insight, patience and wisdom, and is worthy of these as well.¹

This quotation suggests several questions: 'What are significant religious experiences?' 'What values do such significant or worthy religious experiences have for the developing child?' 'What religious experiences are normal to the life of the growing child?' 'What are the developmental stages in the religious life of the child?' 'Through what agencies does society make desirable religious experiences available to its children?' This chapter attempts to present data and to stimulate thinking along the lines of these questions.

RELIGIOUS EXPERIENCES SIGNIFICANT FOR CHILDHOOD

What is religion? Religious motivation finds various forms of expression. The religious person may pray, recite religious creeds, sing religious songs, make pilgrimages. Most religions impose restraints on organic desires and promote social expression of religious faith. Religion deals with such concepts as life, death, immortality, God, man, soul, sin, spirit, truth, goodness, and beauty. Religion calls for such emotional expressions as awe, reverence, hope, faith, and confidence. Religious sentiments involve love of man and of

God. Hence, *religion is a way of living*—of acting, feeling, striving, thinking—with regard for what the religious person believes to be God. There is no fixed way of life called religious. The better forms of religion support the social mores; they sanction goodness, truth, and beauty.

How does the child achieve religious development? The child's religious nature is an aspect of his total personality. The human being at birth is not religious in the same sense that he is nonscientific, nonmoral, or nonaesthetic. He inherits none of these qualities in a functional form but acquires them gradually through experience. As a growing child adjusts to the concrete aspects of truth, goodness, and beauty, so also he comes to adjust to the deeper order of cosmic life, and hence to God.

THE OBJECTIVES OF RELIGIOUS EDUCATION

Religion can sanction the most fantastic beliefs, the worst depth of vile behavior, it can inspire the purest devotion, the noblest heights of heroic achievement.¹

There are several desirable outcomes of the better forms of religious education. Also there are dangers to be avoided. We shall now consider some of these possibilities.

1. Religious education can give human life dignity and worth through God-orientation. The idea of God involves a conception of the whole cosmos. The idea of the good life implies a unified and worthy life. Religion motivates the entire life through its beliefs, appreciations, standards, loyalties, and expressions of outer conduct. The more developed idea of God implies ideas of truth, goodness, and beauty. Hence religion at its best raises life above moral depravity, cynicism, hatred, pessimism, despair, or any such life attitude. The religious overview of life gives the individual self-respect, a calm assurance that problems can be solved, and a willingness to devote his life toward the solution of social problems,

¹ Naomi Norsworthy and Marv T. Whitley, *The Psychology of Childhood*, rev. ed., New York, Macmillan, 1937 p. 350.

such as the problem of international good will, that cannot be solved during the individual's life span.

2. Religious education can provide a regulating life principle and hence it can integrate individual and social life. Individual life needs to achieve unity as well as does social life. For the worshiper, religious standards and demands take precedence over all other forms of loyalty. His interpretation of the will of God—as revealed in the teaching of the church or the Bible—becomes the guiding principle of his actions. Intelligent conceptions of religion do not exclude scientific truth or intellectual evaluations. Science provides factual data. Religion furnishes a type of motivation and of theory (faith) in realms where science has not, or cannot, tread. The intelligent worshiper constantly reconstructs his conduct in relation to changing situations. The evolving social order calls for fresh applications of religious principles and hence for conscious transfer. But the fact remains that religion is an important force for bringing peace and harmony into the individual life and adjustment and accord into the life of social groups.

3. Religion can give purpose to a social group and morale to its adherents. Group morality tends to lag behind personal morality. Individuals, kindly and considerate in their person-to-person relations, may, when members of a mob, lynch a victim of race prejudice with all the fiendish tortures of a group of savages. Part of the work of religion is to leaven the whole lump of society.

Intelligent religious education supports good social customs, fashions, and mores. The religious educator opposes such practices as slavery, war, prostitution, and illegal sale of narcotic drugs. Individual motivation does not make a bad institution good. Institutions as well as individuals need religious and moral guidance. The general application of the better principles of any of the great living world religions would protect the institutions of society from many of their most destructive tendencies. The adjustment problems of so-

ciety do not demand *more* idealistic or worthy principles for their solution than those now available; they call for the *application* of principles that are well known. The supreme religious principle is the intelligent love of God and of man. Philosophy, religion, and science should guide us in our interpretation of this principle and its application in particular situations.

RELIGIOUS DEVELOPMENT FROM EARLY TO LATER CHILDHOOD

The religious status of the infant. The human being at birth holds a neutral status as regards religion; the baby is neither religious nor anti-religious. The infant has potentialities for adjustment which make possible development either favorable to, or opposed to, religion. Man is inherently religious in the sense that his biological endowments make the development of a religious personality possible. The type of response that the developing child makes to his social environment is largely responsible for the set which his personality takes toward religion.

In accord with the scope of this volume, we trace the development of the religious life of the individual through early, middle, and later childhood. We discuss this development in regard to (1) the intellectual life, (2) the feeling life, and (3) the total personality.

Intellectual religious development. How does a child develop the intellectual aspects of his religious life? It is necessary for the developing individual to master some difficult intellectual concepts. The present-day religious teacher assumes that religious ideas develop in the same way as any other type of concept. How does any concept develop? One little girl of three years, in response to the spoken word *door* ran to the other side of the house and placed her hand on the one object which for her at that time was the only object that she called *door*. But of course she soon learned that other objects of different sizes, colors, shapes, and locations also are called doors.

Let us attempt to generalize the above illustration. What reactions does an individual have to make in order to master a general idea or concept? 1. The child must use eyes, ears, or other sense channels in order to register a sense impression. 2. Sense impression unifies into a meaning and becomes a cue for action in relation to an object. 3. The sense impressions are separated from the meaning of a particular object, and finally the object is identified regardless of its color, size, or placement. 4. At length a class of objects comes to have meaning for the individual and hence he can deal with concepts without extended illustrations.

One difficulty is outstanding in the development of religious concepts: it is not possible to supply the first steps in the way of definite sensations and percepts. A child of four years learned the words *God* and *Jesus*. She understood these words to refer to people. She asked, "Where do God and Jesus live?" The parents said, "They live in Heaven." The child said, "We will go and visit them some day." But the child cannot visit God, and there is no easy starting point for an explanation of *God*, as there is in the case of *door*. The parent may resort to comparisons and say, "God is like a father." "God is like Santa Claus." "God is like a fairy." But comparisons are intellectually difficult, and the preschool child may come to some curious conclusions.

Parents and teachers need to recognize the difficulties inherent in the explanation of the word *God* to the pupil in early and middle childhood. The child's concept of God is almost certain to be unsatisfactory to the adult; but this is true not only of the child's idea of God but of his idea of *door* or of any other word that represents a concept. The notion that God is an old bearded man living up in the sky certainly is unsatisfactory. Moreover, the thought of God in terms of a fairy or a Santa Claus does not seem desirable.

Although the God concept is difficult to teach, the teaching cannot be avoided safely. Even intelligent adults do not have very satisfactory ideas concerning God, and, naturally, we can-

not teach that which we do not know. Yet neither can we avoid the responsibility of teaching in this field. The imagination of the child functions freely. This imagination must be concrete. We must supply, then, such concrete materials as will cause the child (1) to think of the unseen world as friendly; (2) to think of God as good and an influence for good; (3) to connect the idea of God with the concepts of truth and of beauty; and (4) to find God in the natural order of life and not in some imagined order detached from customary human experience.

Not all religious concepts are as difficult to teach as the concept of God. It is possible to approach other religious terms through more concrete individual experience. The church can be seen. Prayers can be said. Truth, sin, beauty can be illustrated. Nevertheless, the growing child finds the task of mastering religious concepts a difficult one. An unpublished study indicates that children from eight to fourteen years of age have very hazy and imperfect ideas of the meaning of the words *God*, *prayer*, *church*, and *religion*.¹ Norsworthy and Whitley refer to other studies which indicate difficulties on the part of children in the understanding and application of religious teachings.² Much care and interest is needed to give religious terms meaning in the minds of children in the upper grades; to children in the lower grades abstract religious terms appear to be practically meaningless.

It is well for the religious educator to understand some of the interpretations common to the thinking of children. Thirty-six per cent of 4640 children from fourth to ninth grades expressed their approval of the statement that God keeps a record of our bad deeds in a great book; forty-three per cent thought that he does not, and twenty-one per cent were doubtful.³ Almost half of this same group of children

agreed with, and the rest denied, the proposal that if we pray hard enough for sunshine or rain God will change the weather for us. Parents and teachers must be constantly alert to help the child become aware of the broader and more spiritual interpretations of religion.

One further principle governing the teaching of religious concepts to children needs to be emphasized. This principle grows out of the tendency of the child to be active. It might be stated thus: *for organisms with little functional intelligence, understanding comes through activity.* A dog can understand the word *cow* in the sense that he can run and drive the cow home, you could not set the dog in a chair and by speaking words to him cause him to understand the relation of *cow* to *milk*. Of course, the child has much more intelligence than the dog, and the potential intelligence of the child becomes more and more functional as maturation takes place.

The principle stated above suggests that the developing child should be an active participant in religious expressions. In the past some theologians have opposed the practice of this psychological principle. These theologians have restricted the entrance to holy places to specially prepared adults. Children and, for the most part, women were barred. But if our children are to learn religious practices they need to have access to places of worship and to participate in religious ceremonies.

In what types of religious rites can the child participate? The child can sing hymns. He can participate in religious drama. Children can have a part in the recognition of such great religious festivals as Christmas and Easter. Children can render social service in the name of religion. Training through activity is one of the best ways to set his attitudes and to develop his insights. The great judgment scene depicted by Jesus discloses persons who are surprised that they have rendered service to God. Why are they surprised? With them social service had become so much a matter of everyday activity that they had not realized its religious nature. Such

people must have begun the doing of kind deeds when they were little children.

Emotional religious development. How does a child develop the emotional aspects of his religious life? We shall state (1) the objectives of emotional religious development; and (2) the steps toward achieving these objectives in early, middle, and later childhood. This discussion involves both what is desirable and what is undesirable in emotional maturation, the development of certain complex emotions, and those emotionalized habits that are here called *sentiments*.

What emotional expressions should religious education aim to develop? The emotions of admiration, awe, reverence, belief, hope, and faith have a particular bearing on religious life. This is due to the fact that religion deals with the relatively unknown realm of life. Science deals with a world of objects subject to direct observation and with data subject to demonstration. In contrast, religion deals with a world with which we cannot have sensory contact, and with theories not subject to exact scientific demonstration. Therefore, hope, faith, and belief are prominent factors in religious attitudes. Also, since religion predicates a God worthy of worship, it calls for emotional responses of admiration, awe, and reverence.

Such emotions or emotional attitudes as hope, faith, and belief imply different types of reactions at different stages of child development. The imaginative optimism of the kindergarten child favors a type of hope and belief. The perceptual realism of Tom Sawyer or Huck Finn is not favorable to the fairy story type of belief. Perhaps the normal development through childhood is something like the following: (1) emotional, imaginative enthusiasm that has little basis in fact, (2) the opposite extreme of hard realism with little emphasis on imagination, (3) preadolescent doubt or fluctuation between idealism and realism, and (4) a more steady and practical type of idealism.

Teachers should seek to preserve the spirit of confidence

and trust on the part of the developing child. For normal life experiences must be faced, regardless of how painful and realistic they are. Innocence and blind trust with no sense of responsibility must give way to active faith in the face of difficulties. Intelligent optimism differs from emotional enthusiasm. Reverence for God should inspire hope and trust that the good and right will finally prevail. The cynical pessimist is one who fears to face facts and distrusts the future. Realistic idealism is not an impossibility; there can be confidence and faith in spite of knowledge about suffering, sorrow, and death.

What attitudes and sentiments does religious education seek to develop? The better forms of religion favor intelligent, conscientious love rather than hatred. It appears that the idea prevailed at the time of Plato that one should love the good and hate the evil. But Jesus favored the love of enemies as well as of friends. Gandhi contends that hatred and its normal expression in violence must be given up.

Violence in any shape or form is entirely eschewed. Self-suffering is the only true and effective means of securing lasting reform.¹

The point of view advocated by Jesus and Gandhi recognizes that there are many individual and social forms of evil that should be abhorred, condemned, and corrected. But the motive should be one of love and not of hate. The one who hates evil is, through the binding ties of his hatred, kept in contact with the evil. Disgust at evil separates the individual from the evil; disgust is superior to hatred in this regard.

The program of religious education for the developing child seeks to build up sentiments of love toward man and God. The whole complex systems of emotions, impulses, desires, attitudes, and ideas which make up a sentiment take form gradually as the child develops. The attachments of kindergarten children are not very lasting because the pattern of the sentiment is not formed, but a trend toward love or hate

may be starting. Experiences which involve reaction of wonder, tenderness, elation, joy, or gratitude furnish material for the organized pattern of friendship or love. In like manner, experiences which cause the developing child to feel anger and disgust, scorn, envy, malice, jealousy, or vengeance supply the materials out of which hatreds develop.

The young child develops friendly attitudes toward those most nearly associated with him and then gradually extends the circle of his friends. The mother extends benefits and tender care to the infant. His first response may be mere contentment—sleep or a kindred expression of satisfaction. But soon the developing babe learns to smile in response to favors received. As the child grows he becomes more able to confer favors. In order that his friendships should develop, the maturing child needs to render service to others as well as receive from others. In this mutual exchange the basis of equality is the value of the favor to the recipient. Joy aroused by benefits given or received grows readily into admiration. Emotions or moods of tenderness, joy, admiration, or gratitude expressed toward or for a particular person lead to the formation of a sentiment of friendship for that person. This friendship becomes a lasting attitude; it persists independently of the expression of any of the emotions that make it up.

The religious educator should understand how hatreds develop in order to do what he can to prevent them. Experiences which cause the child to feel continued pain, disappointment, disgust, envy, jealousy, or vengeance are of the type which lay the background for personal, industrial, religious, and racial hatreds. If a child thinks that he is unjustly punished or deprived of his rights, he is likely to harbor resentment. If this unfair treatment is brought into sharp contrast with fair treatment toward other children of his gang, the child usually develops envy or jealousy. If such a condition continues and affects his vital interests and rights, malice and vengeance are likely to appear during later childhood. When such a group of antisocial emotions becomes built into an

automatic system, a sentiment of hatred is established. Types of hatred transfer readily, and soon the total life pattern becomes so maladjusted by them that religious sentiments of love and friendship are excluded.

Religion and personality development. How does the child develop the personality aspects of his religious life?

Assuredly a philosophy of life is invaluable in achieving a unified and dynamic personality, and intelligent liberal religion is a valuable aid in achieving that philosophy.¹

Religious experience should aid the developing personality to: (1) avoid hampering inhibitions and fixations; (2) develop a lasting and worthy type of happiness; and (3) organize a scale of values dominated by a master religious sentiment.

Educators should have as a conscious objective the stimulation of the continuous growth of a child's religious personality. If this is not done, hampering fixations may keep that personality in an infantile state. Types of infantilism should be noted in order to be avoided.

Prayers are infantile if they are a Pollyanna attempt to secure the object of immediate desire. Religious confidence is infantile if it is placed in formalized ritual and blind obedience. That "we cannot have world peace because the inspired Word says there are to be wars until the end of the world" ² is an infantile attitude toward prophecy. Religious devotion to rituals to be observed, verbal statements to be made, proper places for worship, are for the most part infantile. The execution of helpless old women as witches, a children's crusade, the burning of conscientious religious objectors, and "holy wars" are examples of childish attempts to secure religious values. That personality has not matured which concludes that floods, sickness, wars, famines, and earthquakes are God's ways of punishing those who offend Him.

It is normal for an infant to be infantile in his religion. It is normal for a child to be childlike in his religion. But it is most undesirable for an intelligent adult to assume that God acts on the basis of temper tantrums and laughs at the misfortunes of "atheists." If the growing child is to continue to worship God, the child must assume that the thought, desires, and plans of God warrant his worship. We must not teach our children that trivial or socially undesirable conduct becomes significant and worthy because we connect it with the name of God. A child's religious development must keep pace with his physical, mental, social, and educational development.

How should religious experiences aid a maturing personality to achieve a satisfactory type of happiness? William James¹ gives numerous illustrations of how religious conversion gives unity to personality, happiness, and a sense of victory to defeated individuals. This result can be more adequately achieved by continuous intelligent direction of the child's religious development. Toyohiko Kagawa² speaks repeatedly of the tears which accompanied his childhood life. No one can have contact with this great religious and social leader without noting the deep and radiant happiness of his life. For him religious life and service have brought happiness.

The growing personality which desires a deep and worthy happiness must seek at least two types of life adjustment. First, he must achieve unity in organic desire, in social desire, and in conscious purpose. The drive of his desires must flow readily along the lines of his conscious purposes. He must enjoy doing that which he considers it his duty to do. Secondly, he must become allied to a cause, bigger than himself, in the success of which he has faith. Religious experiences can be fruitful in promoting such a type of personality pattern and can offer a cause worthy of the deep and continued devotion of an intelligent person.

¹ W. James, *Varieties of Religious Experience*, London, Longmans, 1902.

² In many of his biographical statements.

It is normal for a healthy and growing child to be cheerful and enthusiastic in pursuit of his interests. Such cheerfulness in early childhood may reflect ignorance of life's problems, lack of a sense of responsibility, and merely a healthy euphoria. It is well to consider that euphoria may even be an outcome of certain physical and mental diseases. Certainly religious education should seek to develop a different type of euphoria from this.

Religious faith must take into account all available facts and offend in no way the principles of science. Moreover, success must not be achieved through the lowering of standards. A feeble-minded inmate of a state institution displayed his signature in his own script with pride and joy. The writing of his name was for him a worthy achievement. But the normal sixth grade child cannot be satisfied with such a victory. The normal child must undertake more difficult tasks.

Religious faith that leads to deep and worthy happiness is an outcome of more concrete or specific types of faith. The developing child needs to achieve faith in his own intrinsic potentialities. He must have faith in his home and his school. As he grows older he needs faith in his country and his civilization. A child ought to believe in social cooperation and in the desirable outcome of honest and intelligent effort. These types of faith and confidence should constitute a basis for religious faith. The best religious principles assume that God, man, and nature are potentially good. Hence it is reasonable to face life with confidence. The unity of intellectual and emotional confidence is an important factor in deep and worthy happiness.

What can religious education do toward developing a scale of life values in the maturing personality? Religious devotion should act as a master sentiment or supreme norm for values. The final outcome of a maturing personality should be an organized religious character. Such a personality pattern should have unity and purpose. Unity and direction

of purpose call for a supreme norm. From the religious angle, the love of God constitutes a master, or dominant, sentiment. The decisions of the worshiper must reflect the will of God. In like manner the education of conscience must be God-oriented. The thinking of the individual should take into account his religious faith as well as scientific facts and methods. Enjoyment and appreciation take their cue from a dominant, but intelligent, love of God.

The child may use either an inductive or deductive approach to achieve a religious character. How does a child, for example, achieve a concept of beauty? He starts with numerous percepts of beautiful things. He experiences the beauty of common things—birds, flowers, trees, clouds, stars—before the beauty of personal conduct and of life. But his aesthetic education should not end before he achieves a conception of the beauty of all nature and all life. Such a concept of beauty is religious and is one aspect of a religious personality.

AGENCIES FOR GUIDING THE CHILD'S RELIGIOUS DEVELOPMENT

Religion and the home. How should a well-regulated home influence the development of religious character in its children? Although the home is not a school, it has marked influence upon the attitudes of its children. From the point of view of religious education, the home is a molder of attitudes rather than a teacher of religious ideas and a director of religious techniques.

The social and religious attitudes of a child receive their set largely from the conduct and conversations of the parents. The parent does not have to assume the formal role of a teacher. The mere fact of his close contact during the plastic period of the child's life causes the parent to be an effective molder of attitudes in the child. If the parents speak with intelligent optimism, the child is likely to develop an optimistic outlook toward the major values of life. Such conversation

need not be technically religious. If the parent shows marked admiration for flowers, birds, stars, sunsets, and the whole panorama of nature, the reactions of the child are likely to point in a religious direction. Many parents can be teachers of the basic attitudes which support religion, without mentioning God directly. Young children, slow to learn religious creeds, are often quick to detect and to approve the attitudes of individuals who are truly religious.

Without taking time from her other duties, a mother may influence the development of a prayerful attitude on the part of her child. Prayer to a considerable extent is a matter of attitude. Without taking the customary positions or speaking the technical language of prayer, an individual may maintain a prayerful attitude, such as an attitude of friendliness, trust, and good will. Such an attitude becomes religious when it extends from the home to the wider reaches of society and to the cosmos. In this connection it is important to link together that which is near at hand and that which is distant in time and space. We tend too often to contrast the natural and the religious. One great religious teacher mentioned the lily, the fox, the raven, the sheep, the house, the net, and the meal to illustrate great religious truths. He gave high praise to a person who gave a cup of cold water with a brotherly motive. This is the type of religion which the child can understand; the comprehension of the complexities of ritual and theology should be left for later adolescence and adulthood.

Another factor affecting the child's attitudes is the friendly or hostile relationship existing between parents. The foundations of his religious personality may be involved in this attitude of the parents. Every child needs a sense of security and an attitude of confidence. If there are strain and stress between people who are near to him, the small child is disturbed to the very foundations of his personality. For parents to permit bickering, angry words, and hostile acts to mark their relations to each other is to do permanent harm to their

children. A most important expression of religion is daily and customary conduct.

If parents give tangible support to religious institutions, the attitude of their children is likely to be more favorable to such institutions.

In a survey of an entire community it was found that when parents themselves attended Sunday School, 92 per cent of the children also attended, while only 28 per cent of the children attended when the parents did not.¹

Other factors in the home besides parents are important for conditioning the religious attitudes of the children. The radio and the cartoon are powerful agencies. Religious books, pictures, and magazines are found in many homes. Animal and fairy stories interest children of all lands and times. To what extent are these influences likely to be favorable or opposed to religion?

The religious life is the total life as it finds orientation to humanity and to God. A radio program may disturb a child's religious point of view and run counter to his convictions. Such jarring influence may make for open-mindedness or for confusion of mind. What programs children hear over the radio, as well as how many programs they hear and when they hear them, are matters of sufficient importance to warrant consideration and consultation on the part of parents and teachers.

Copies of great religious pictures can be secured for the home at a relatively small price. In a home of few decorations, one copy of a great picture may exert lasting influence over the ideals of the child. We have not been very successful in interpreting the messages of our great religious books in language understandable to individuals in early and middle childhood. The picture, the cartoon, and the fairy story reach the child much more definitely than does the ordinary religious book. The book may represent the message in a

systematic way and hence is better perhaps for the intelligent adult. The child profits more by the concrete pattern of the story, the cartoon, or the drama.

We need great artists to show the way to interesting, artistic, and spiritually helpful cartoons. The cartoon is likely to present an oversimplification of an involved situation, and the child may take this simplified message as the whole truth. Also, the cartoon may discredit an individual or a group of people; it may show every whisker of the Bolshevik as a sword. Further, the fairy story may be true or false in its suggestiveness. The fairy story is true if it presents a truly religious and moral suggestion of the unseen world. The story of Snow White is false when it presents her fear of nature and wild animal life; it is true in those sections that present nature as friendly and cooperative. Stories for younger children are satisfactory only when all the incidents of the story arouse friendly and cooperative attitudes on the part of the child; the older child perhaps can build the good and bad incidents into one good message for the total story.

Religion and the school. Is it possible to state what our public schools are attempting to do in religious education? We offer some answers from different religious points of view.

Religion and education thus stand out as two mutually complementary determining factors in the age-long process we call civilization. Religion is the source of inspiration and the driving power of civilization. Education is the method of procedure in civilization's advance.¹

The duty of government is to protect every man in his religion, but not to favor one religion above another.²

For the state to teach religion would only serve to aggravate the trouble it is meant to cure.³

For the Catholic educator religion must permeate, energize, inspire, and safeguard the whole personality of the student.⁴

The basic unity underlying present-day educational programs is the central problem in Jewish thought and life, namely, social adjustment and spiritual self-realization.¹

The modern public school in teaching religious ideals renders a service to the theologians by creating a receptiveness in young people for formal religious teaching as practiced in the religious schools of the nation.²

The statements quoted above need to be read in their contexts to be understood fully. There are real difficulties involved in the teaching of religion in our public schools. Some religious groups consider their particular beliefs an essential part of religion. Certain citizens desire their children to have no religious instruction. No policy of the public school can satisfy every one completely. A democracy, working for the best interests of all, can expect minority protests. But, on the whole, we desire the young citizen to have the benefits of religion in the broad sense of that term. Most citizens think it undesirable to take public funds to teach denominationalism or religion in a narrow sense. Hence the public school must confine itself to teaching only the broad universal principles of religious living.

But what at first seems a limitation may prove in the end to be a religious asset; as one speaker put it, "The points about which denominations differ make no difference." Denominational emphasis must give way to broad and deep religion. A recent world conference affirms, "Education is and must always be a major concern of the church."³ The report states further that:

The school must be truly Christian. That does not mean that there will be only Christian children in the school. It may not always mean that there will be no non-Christian teachers. It does mean that the whole tone and spirit of the institution must be

Christian, so that the school itself may demonstrate what the life of a Christian community can be.¹

This report is speaking of a Christian school in a non-Christian country. But any school in any country should reflect the finest spirit of the religion of that country.

The church school. What should be the function of the church school? Most religious denominations have a type of Sabbath, Bible, or church school for the children of the denomination and for others who care to attend. "The survey presented at the Oslo Convention shows a total of 37,441,000 Sunday school scholars and teachers in the 12ⁿ countries of the world."² These schools presumably are intended to teach the principles of religion and the special tenets of the religious groups by which they are supported.

The number of Sunday school pupils and teachers mentioned above is impressive. But it must be remembered that the situation in many Sunday schools is not favorable to education in the strict sense of the word. The teachers of the Sunday school are not paid, and few of them have much training for their work. One investigation reports that the methods of teaching are very primitive. "The classwork of this selected group of teachers was almost wholly of a factual character, dominated by rote learning and authoritative instruction."³ The class period per week is usually less than one hour. Frequently the lesson presented is not graded to suit the age of the pupil. Often the class discipline is lax. The attendance of both pupils and their teachers may be irregular. The above statements are intended to describe the typical Sunday school; some Sunday schools are superior.

Hartshorne and May investigated the influence of the Sunday school on certain expressions of honesty on the part of the children. These investigators discount their findings to

some extent in that the findings apply to only two communities and to behavior not much stressed in the Sunday school. But under these limitations the conclusions are that "the tendency to deceive is about as prevalent among those enrolled in Sunday school as it is among those who are not, in one community, and in another those enrolled are less deceptive than those not enrolled." ¹

Considering the limitations under which the Sunday school works, these results appear not so bad. If the children in one community out of two (in one-half the communities) are made less deceptive by one hour of experience out of the entire week in a field other than the field of major emphasis, the results might be considered effective, relative to the amount of effort exerted. But the fact remains that much more effort needs to be exerted before we can feel assured that the Sunday schools are performing their intended function.

Religion, art, and play. What social agencies besides the home and the school are available for promoting the religious education of our children? We suggest as examples of such agencies (1) motion pictures, (2) other forms of art, and (3) play. The list is not intended to be exhaustive. The fact that these agencies have other functions should not exclude them from consideration here. The reader should keep in mind that religion is not a "faculty" or detached part of life; it is the sum total of life considered from the point of view of cosmic realities.

What are the implications of the motion picture for religious education? A motion picture is satisfactory from the religious angle: (1) if it displays worthy aesthetic and moral standards; (2) if its total effect and the effects of its separate parts are favorable to religious life; (3) if it helps the child maintain a friendly attitude towards the natural and social orders; and (4) if the picture arouses attitudes of love rather than those of hate.

Investigations of the movies early in the decade 1930-40 indicate that the pictures produced certain undesirable effects in the lives of the children who attended. In a certain group of pictures which showed two marriage scenes and three religious scenes, there were 275 scenes in each of which a man and a woman were embracing.¹ "Fifty per cent of the high school children examined by Professor Blumer indicated that their ideas about sexual love came from the movies."² In one sample of truant cases, fifty-five per cent said that the movies stirred in them a desire "to make a lot of easy money."³ "Of 255 delinquent girls, fifty-five per cent, more than half, admitted that they had stayed away from school to go to the movies."⁴

The above is sufficient evidence to indicate that our movies are potent agencies in the lives of the children who attend them. Moreover, their effects in the life of the child are not immediate and passing. There is a real transfer from the pictured situation to life activities. Also, it is plain that care needs to be taken to introduce our children to screen presentations not only artistic in form but also moral and religious in content.

The Roman Catholic Church has shown considerable interest in the promotion of better movies. This interest and effort, supported by other religious bodies, appears to be bearing fruit. Restricting influences of this type are most effective if brought to bear while production plans are still adjustable. Any censoring board has great difficulty in keeping a picture from being shown after large sums of money have been invested in its production.

Local theaters need to be freed from the necessity of buying their pictures in blocks, with some of the pictures wholesome and some not. A theater should be able to assure its patrons that its presentations, while varied, will always be acceptable from the moral and religious angles. Parents cannot be ex-

pected to give their children guidance concerning every new picture, and most churches cannot assume this function. Therefore, a heavy responsibility rests upon the theater. A basic hope in the situation is that truly great pictures will be the ones to give economic returns to the producers. Like a great piece of music, a great picture should bring its message many times to the same person.

What bearing have great works of art (aside from motion pictures) on religious education? Religion bears its message through many forms of art. The architecture of great cathedrals suggests attitudes of awe and reverence. The upward pointing of a church steeple is suggestive of the higher things of life. Decorations on church walls and windows may convey religious messages effectively. Art museums contain much religious art. The visual beauty of city, state, and national parks is being made available to large numbers of people. The radio and loud speaker are bringing auditory beauty in the way of music to multitudes of people who never before had such contacts.

To introduce the child to any true form of beauty is to start the ascent from beautiful things to beautiful thoughts and attitudes concerning man and God. To be religious, the beauty must be not merely in the foreground but also in the basic pattern of the situation. The Greeks considered beauty and goodness essentially allied. The beauty that is allied with goodness is the religious type of beauty.

What bearing has play upon religion? Play, as well as art, involves an expansive, creative experience. For an individual in early childhood, play experience may be the gateway to religious experience. As his play life matures, a child develops a more complete expression of his total life. This social expression may not in itself be religious, but it lays a foundation that makes a religious experience more probable.

Play is an excellent illustration of maturation in social attitudes. The infant is solitary in his play. Kindergarten children all love to run and play together, all engaging in

the same type of activity. Further development causes a child to become a member of a group playing against a similar group. Later the child becomes the member of a team and can play an individual part. In his team play, at first, the child loves to be "it," or to play a star role. But further experience and development bring the desire and ability to subordinate self-interest to the interest of the team as a whole. We are not to assume hastily that interest in a team implies interest in every other social agency; transfer of social attitude is not so automatic as that. But the director of the play can aid the child to transfer his desirable play attitudes to other activities and groups. Such transfer promotes the objectives of religion whether done in the name of religion or not.

The genetic trend of play development is toward completeness of expression and a finer sensitivity to social need. The subordination of self-interest to team interest is one concrete way of responding to social need. A social situation which promotes this type of development is promising from the religious angle. Full religious development carries this same type of expression and social sensitivity into the realm of the unseen. The child's interpretation of play is likely to involve imagination. Also, play carries with it emotional dynamic. Such expression of imagination and emotion impels the developing personality in the direction of the spiritual realm.

Of course, for best results we must assume a proper supervision of the child's play life. Unsupervised play may result in expressions of rudeness, cruelty, vulgarity, profanity, etc. It is not so much that the child needs restraint as that he needs friendly guidance toward richer experiences. Such guidance may come in the play situation. If the play situation is as it should be, there is likely to be little need of punishment or even of much personal direction.

SUMMARY

The developing personality of the child becomes religious as it achieves increasing adjustment to God or to the basic

principles of the cosmos. Religious motivation adds dignity, unity, and morale to a developing personality. This chapter traces religious personality development through early, middle, and later childhood. Religious education uses factual data and scientific methods to the fullest extent possible. The religious world is an extension of the natural and social order and not a detachment from it. Hence, the same principles of psychology apply to the religious development of the child as to any other aspects of his development. To subject a developing life to a master religious sentiment is to aid the life to avoid hampering fixations and crudities and hence to give a set of life favorable (1) to reflective and creative thinking, (2) to sensitivity to moral and aesthetic values, and (3) to organization of character and a unified and worthy happiness. The social agencies that promote religious education are the ordinary ones of home and school, work and play.

QUESTIONS AND EXERCISES

1. 'Can a child become truly religious before he can understand the meaning of the church creeds?' To what extent does a truly religious attitude depend upon the comprehension of all the complex problems of theology?
2. Men formerly prayed to the gods of the River Nile that the river might overflow and make their fields productive. Now worshippers living along the Nile know that its waters are controlled by man-made dams. Does this mean that science is taking the place of religion? Or does it mean that science is releasing religion to minister to the higher human needs?
3. Recently we have had proposals to build up armaments to protect our religion. Do we think it possible to protect religion by fighting a world war? Would the spirit of the war itself be a factor in direct opposition to religion?
4. There have been times when the leaders of religion and the leaders of science have opposed each other. Is it normal to expect such opposition? Is one group more to blame than the other? Is it possible that one type (scientific) of truth could be in direct opposition to another type (religious) of truth?
5. How do you define religion? What human need is revealed in it? Does it involve a theology? A form of ritual? A moral

level of attitude and conduct? Do religions live their lives and die of old age? Might a person be religious and not be aware of the fact?

6. "This man is a good man but not a religious man." Is such a statement in accord with the best conception of religion? Is it desirable that we speak of religion as something different from goodness?
7. "A noted American philosopher recently said, 'I got my religion from my mother who never talked religion to me.' " ¹ Does this seem possible to you? How do you suppose this mother taught religion without talking about it?
8. Do you consider the following problems religious? 1. How can we secure a living wage for all our workers? 2. How should sex facts be taught? 3. Should a government protect the investments of its citizens in a foreign country? 4. Should we consciously limit population? 5. Should our constitution limit the extent of our federal debt?
9. In many countries today there is a clash between church and state. What is basically wrong? Do we need more separation between the two? Do we need a state motivated by religious principles? Do we need a church supported by the state? What is the basic need?
10. One sometimes hears this question and answer: "When is a school not a school?" "When it is a Sunday school." Is the Sunday (Bible or church) school holding its own? See if you can write a list of objectives for the Sunday school that actually can be put into practice.

Chapter 13

Aesthetic Experience in Childhood

NATURE OF AESTHETIC EXPERIENCE

Volumes have been written to tell what aesthetic experience is. One is "told" by the words, however, only after he has accumulated impressions through direct experience which the words read will order and arrange. The first step, therefore, to the understanding of aesthetic experience must be through experience with it. The vicarious experiences offered in the following pages are not a substitute for direct experiences. Their potential service is their suggestion of how and where to seek direct experience.

OBSERVATIONS OF AESTHETIC EXPERIENCE¹

It was creative expression hour at Miles School. Three hundred children were scattered through the studies, library, and laboratories of the school, not according to age, but according to individual needs for facilities offered in each room. In each room, therefore, were children ranging in age from five to fifteen, talking to themselves through the mediums of colors, sounds, words, shape, and movements. Many of these were merely renderings representing naturalistically the physical properties of some physical object observed. Many others were creating affects that bore a full resemblance to the material object of the stimulating situation. These were integrating the sensory impression of an earlier per-

¹ The following is a synthetic account drawn from the report of several observers in different schools. The reports are arranged thus to illustrate a type of school atmosphere and organization that fosters aesthetic experience. The whole account is true to the spirit and results of schools which are providing this type of atmosphere.

ception experience which had evoked a heightened or deepened emotional tone. The latter children, according to the point of view of this chapter, were having "aesthetic experience." The majority of children ranged between these two levels of creative expression with no distinct line of demarcation. In each room was a teacher consultant.

In the crafts studio a girl of nine or so was weaving on a large easel frame. Her wools—dyed by herself—were a beautiful black-green of the depths of a great forest, the red of arterial blood, and a dirty gray. My first reaction was, "Why doesn't the art teacher tell her she needs black in that red and that white would be more effective than that dirty gray."

Then I looked at her rug and was lost to the world for minutes. Her design shuttled my eyes from green to red to green to red until I felt the irritation of fatigue. Each color was in itself so beautiful that I wanted to linger, but I couldn't. That, too, irritated me. Then for the first time I noticed the gray, so sparingly was it used. It seemed hit and miss; I could find no regularity in its use, yet it seemed to belong. I began feeling depressed and yet uplifted, restless and yet at peace.

Later we saw two of this child's other artifacts— a batik made several months before and a design in oils made weeks before. In both were two beautiful colors that barely missed harmony and a third color, ugly but somehow pulling the others together at rare, brief intervals. Characteristic of their designs was that shuttling effect upon the eye from one impelling color to another.

Then I understood what a sin against art it would have been to have talked color harmony to that child. Colors that harmonized could not have told what she was telling. Probably we would never know what that was, but we could make a shrewd guess of two conflicting forces continuously pulling this child in opposite directions. Yet, according to our guess, her life was not unhappy. The restful depth in each color, intensified as it was by the disharmony, suggested that the conflict itself made her moments of yielding to either force the more deeply satisfying. It must not be inferred that she was consciously expressing this. She was merely doing what satisfied her, but what satisfied her was the product of the emotions she had withstood.

In the same studio a boy of twelve, or thereabouts, was printing a wall hanging with a linoleum block he had designed. My interest was challenged by the sharpness of the contrast between the black and white, the markedly asymmetrical balance, the definiteness and

restraint of the lines. Noting my interest, he explained, "A dogwood tree I saw in the country last Saturday made me feel this." The design did not represent the dogwood naturalistically, but in it were the asymmetry and wide spacing of its flowers, the vitality and the texture of its white and its black, and the steel of its trunk and branches. These he had abstracted and recombined into a new whole that crystallized for him the chaos of impressions he had received from the original experience of looking at the dogwood tree resisting a sleet storm. "I felt this poem about it, too," he said simply. It was this:

Storm,
I look you in the face.

Wind,
Rocks anchor my roots,
Your force cannot loosen me.

Snow,
My branches are steel,
Your weight cannot break me.

Sleet,
My sap is warm,
Your cold cannot freeze me.

Storm,
You'll be gone tomorrow.

In the graphic arts studio a boy of eight was vigorously and absorbedly drawing charcoal figures of baseball players in action. The floor was littered with his products, discarded not because he was dissatisfied with the quality of his work but because he was through with them. They had said their say to him. We suspected, and later had our suspicions verified, that this boy wriggles in directly behind the catcher's box at all the sand-lot games and lives during the baseball season with a pitcher's mitt on his hand. It was obvious that his own kinesthetic sensations were the elements in the making of these sketches and that he was tingling with the thrill of these sensations. My own kinesthetic sensations were stimulated, and for a moment I reveled ecstatically in a feeling of free, rhythmical, balanced movement. It was as though I had no body, as though I were just movement.

The dance studio was a symphony of color. Eight or nine seven-year-olds were choosing scarfs to "dance spring." The care with which they selected their colors suggested that color was one of the

mediums through which they were talking to themselves about spring. Three weeks ago, the teacher told me, an introverted child had emerged from her preoccupation with herself and organized some of her impressions of spring in a poem:

Come! Butterfly! Come!
Spring is here! Spring is here!
Wake up. Wake up.
You pretty, pretty thing.

Upon hearing this poem read, the children spontaneously danced. Their dance wasn't the representation of a child awaking a butterfly. It was their response to the sensations the poem evoked. They asked her to wake up the flowers and call back the birds, too. She added stanzas doing this and read them again and again. The children danced again and again. No two danced the same pattern. Each so adjusted to the others that a harmonic whole was created. Then they asked for color to help them say what they felt, so began using scarfs.

No, they were not getting this ready for an exhibition, the teacher said. Perhaps someday someone would suggest sharing their feeling with another group. If so, it would be done as spontaneously as they were then doing it. There would be no rehearsals.

I entered a music studio just in time to see an unself-conscious six-year-old gravely arise from the group and say, "I feel a big wind. Would you like to play it with me?" A dozen other six-year-olds volunteered eagerly and held their rhythm instruments in readiness. He stood a moment as rigid as though in a cataleptic trance. Then he said, "You'll have to feel it, too. Lean on the wind. Listen to it OO OO OO OOO OOOing. Now fight. Don't let it push you down. Fight harder . . . Now let's play it." I listened with amazement to the response to his directing baton. Yet why amazement? These children were feeling together. They were responding as a whole. Each felt his part in relation to all the others.

A girl of fourteen approached the music teacher, who was coming down the hall. "Could you help me a moment, Miss B? I am trying to play what I hear when I read this composition of Bach's. What I hear sounds sure and strong, but when I try to make it sound that way it sounds too much so." The teacher nodded. "Bach expressed power, but it was restrained power. It is the restraint that you are trying to get. Yes, I can help you now." They passed on into the studio.

In the library my attention was held longest by a nine-year-old

boy who was obviously lost to all sense of time and space. "He is reading *Waterless Mountain* for the third time," the librarian said; and she handed me, from a file of cards the children write whenever they feel strongly enough moved to share an experience with others, his spontaneous reaction to his first reading of it.

Little Brother saw lots more beautiful things than most white boys see. When I read this book I feel I am talking with Little Brother. I tell him about things I see. He always knows what I am talking about.

I looked again at the boy absorbed in his story and felt warmed.

In a classroom a group of twelve-year-olds were expressing dramatically the idea of how trade helped man. They were a group of starving cave people. The less aggressive ones were resigned to their fate. They merely sat waiting for death. No one had told them to do and say what they were doing and saying. Each was doing what she would have done had the situation been real, what she was doing in every small crisis in her life—waiting for the inevitable. The dependent ones were whining for help. The aggressive ones were pacing back and forth, apparently thinking deeply. Finally the most independent and aggressive of them all did what she was doing every day—drove the men forth to do something about it. The men returned with empty hands. Even the aggressive ones settled down in apathy. One hadn't returned, but no note was taken of that fact. Presently he came running in. He had found a tribe who had meat but no spears. "We give spears. They give meat," he said. All fell to work making spears. The trade was consummated. There followed a great feast and rejoicing.

As I watched this I felt a thrill of hope I had not felt for many of those deep depression days. Man's inventive genius had always triumphed. It could triumph again if we could free it to develop. Was this what the children were feeling? I don't know. I only know that they were feeling deeply.

WHAT IS AESTHETIC EXPERIENCE?

From time to time in everyday living a configuration of stimuli quickens and narrows our responsiveness. We experience an intensified awareness of stimuli from that configuration which we are accustomed to term "a heightened emotional response." All or nearly all stimuli irrelevant to that

configuration are ignored. After a time—perhaps seconds, perhaps minutes or even hours—our organic processes return to their normal tempo. We breathe naturally again; we attend to many other stimuli and the like. We are somewhat irritated, though, by the chaos of impressions we have gained from our experience. We feel the need for ordering these and arranging them into a whole. We choose a medium—graphic, plastic, motor, verbal—and become absorbed in “talking to ourselves” in order to integrate our impressions and to understand the emotion through which we have just passed. This is largely a subconscious process. Rarely do we know that we have been undergoing this process. This, perhaps, explains why there are so few psychological data upon aesthetic experience.

Some would call the entire experience outlined above aesthetic, others would call only the expression end of it aesthetic. In this writer's opinion, argument over the definition of the term is fruitless. Whether a part of the aesthetic experience or not, the experience of receiving the original sensory impressions is requisite to the experience of expressing. As such it must be reckoned with in our art education programs. For too long we have talked about expression and ignored the fact that there must be something to express.

Aesthetic experience is for the many, not the few. Contemporary scientific research suggests that human development is more plastic than has hitherto been thought. In the light of this evidence it seems unlikely that anyone's present level of aesthetic sensitivity and creativity is rigidly fixed by the genes he inherited. There may be an upper limit predetermined by heredity, and as one approaches that limit his rate of growth would be likely to diminish, but it is unlikely that there is any living person who “has reached this limit.” For all practical purposes, therefore, we may assume that every individual has room for growth.

One's present level in any aspect of growth is the product of his interaction with his environment. The environment of

these children had fostered the development of their potentiality for aesthetic sensitivity and creativity. In other words, they were continuously learning to see more deeply and to talk to themselves more effectively about that which they have seen. The teacher or the mother who would help the child to live a life enriched by aesthetic experience must learn how the child learns to see and to say.

LEARNING TO SEE

A twelve-year-old boy had painted a picture of a white-faced calf poised for a romp, eyes impish, tail provocatively upflung. The overturned feed pail and puddle of milk before it were evidence of rebellion. On either side was an unobtrusive calf in duller black contentedly drinking its milk. The walls of the pen were an aggressive pumpkin yellow. Through an open door was an inviting vista of very green grass.

When asked, he gave the following account of the experience which had inspired this painting:

I've fed the calves lots of days and like to watch them but I didn't see anything that made me want to paint until yesterday. 'N then one little fellow bunted over his pail and just stood looking at me with such a comical expression. I just looked at him and pretty soon I wasn't seeing the other calves hardly at all. I just saw him and then I didn't seem to be seeing all of him—just his eyes looking at me as much as to say, "Well, what are you going to do about it?" and his legs and tail all sort of set to start off and run and kick and twirl around. Only he couldn't 'cause there wasn't room in the pen; and then I sort of saw the pen and I wanted to run, too, run all over the field with that little calf and I felt bad 'cause I couldn't. So I just watched him a while longer, and that fence just seemed to get stronger and stronger and the green field outside greener and greener. I saw the other calves but I didn't see them much. They didn't seem to mind being shut up in a pen. Then I played with him a little while only we couldn't play much because there wasn't room. I was sorry to leave him there alone. It didn't seem right to keep little calves penned up like that. I kept thinking about it and thinking about it and then I just had to paint it and here it is.

This boy had many experiences with the calves before his attention was focused upon one. During these experiences he was, perhaps, building a general concept of the behavior of calves. One calf finally stood out from the others because its behavior was a variation from that general pattern. He had also, perhaps, developed a general concept of the form and structure of calves. On this occasion his attention became focused upon this calf's eyes, legs, and tail because they were a variation from the usual pattern of eyes, legs, and tail while the calf was eating. Thus he saw dominant-subordinate relationships both in the group of calves and among the structural parts of the calf upon which his attention was centered.

Then his attention began registering complementary relationships. The state of content of the other calves and the rebellion of this one accented each other. The barrenness of the pen and the inviting green without accented each other in similar manner.

From this report can be constructed a picture of the activity of the watching boy. He stands carelessly, waiting for the calves to finish their milk. Suddenly his whole body stiffens to attention. He feels embryonic kinesthetic sensations from the muscles involved in running and jumping. He can't run, however, since antagonistic muscles react to hold him motionless; and kinesthetic sensations from these, also, race to consciousness. The result is a feeling of frustration which stimulates other brain centers, glands, and organs to the response pattern we have named "pity." Cognitive elements from other experiences are attended to. He abstracts and generalizes, and this calf becomes any imprisoned calf. His response is no longer to this situation but to an abstract idea. Doubtless there were many objects to which he attended not at all. He selected from the total aggregation of stimuli merely those which made an organic whole.

Upon another occasion his selection would undoubtedly be different. He might, for example, focus upon the calf that is gulping down its own feed and pilfering from its mates. In

that event the difference in size apparent to him might be greater than the actual difference, the parts of the body that expressed aggressive action would be the ones that stood out; the pen, fence, and the pasture would be marginal—essential only as a frame for the scene.

This experience as the child reported it is consistent with proved psychological theory. The organism's first impressions of any novel situation are chaotic and confused. Gradually the parts emerge from this confusion and relationships between parts become apparent. Throughout the process of emergence and establishment of relationships of parts, an organic whole is evolving. The whole of the organism's previous continuity of experience has helped to determine his response at each point of the experience. Different organisms or the same organism at different times will make different selections from the total configuration, see different relationships among these parts, and evolve different wholes. Throughout, the total organism will enter into the response

sense organs will be stimulated directly or indirectly, and brain centers will be organizing the sensory elements into an integrated response that will involve every effector organ directly or indirectly.

IMPLICATIONS FOR GUIDANCE IN TRAINING TO SEE

If we may assume that its consistency with accepted psychological theory validates the above illustration, several clues for development of the child's potentiality for seeing may be derived from it.

1. The individual must be ready for the experience. An adult might have reacted to men in a prison yard or a poor little rich girl in a luxuriously furnished nursery as this boy did to the calf in a pen. It is doubtful that a twelve-year-old would have reacted similarly to either because he is not mentally mature enough to make the abstractions and generalizations that a similar experience in those situations would have involved. Lack of experience is another factor in readiness.

Shortly after his experience with the calves this boy visited a city zoo. So far as the observer could tell, he did not "feel sorry" for the caged beasts he saw there. Perhaps this was because his attention was preoccupied with the many new ideas he must have been developing. In that case he would have reacted to "imprisonment" only after many more visits had clarified his concepts to a satisfying degree and thus freed his attention for other stimuli. Perhaps it was his experiences in caring for and playing with calves that had made him more concerned about and responsive to the comfort of a calf.

The implication for one who would help the child learn to see is the need for an abundance of stimulating experiences for which the child has mental, emotional, and apperceptive readiness.

2. The child must have time to see relationships. The elements of a given situation must be experienced from various angles and in various combinations. Jack had seen calves in many different poses under circumstances varied both as to activity of the calf and of himself and relationship between the two. It is likely that prerequisite to this experience was a general conception of the size, form, color, and behavior of calves in general, and memories of personally experienced frustration of a desire for activity and of the satisfaction of running and cavorting in the pasture.

3. When this child felt impelled to *say*--to talk to himself through paints--about his experience, he did it. No feelings of inadequacy, no lack of materials prevented him from thus clarifying his impressions. It is doubtful whether he could have given the verbal report of it that he did before he had "talked it through" with paints.

LEARNING TO SAY

The painting of the scene in the calf pen described above was not naturalistic. The calf which Jack looked at was red and white; the one he painted was jet black with a white face, white spots near each foot, and tail tipped with white. The

boards enclosing the pen were mellowed yellow pine, the ones he painted were a hard, obtrusive yellow. There were five red and white spotted calves besides the one that turned over the bucket. In the picture were two dull black calves. The grass he painted was lush green; the grass of the pasture was turning brown from a drought.

Recalling the description of this experience will explain these discrepancies. Jack wasn't painting the scene that had been before his eyes. He was expressing the mood that scene had evoked. Those walls hadn't appeared a mellowed yellow to him because he had seen them as irremovable obstacles to a desired state of being. He hadn't seen that particular calf; he had seen a calf that had excited his sympathy. That calf was seen in opposition to the walls, and to express that he had unconsciously chosen a strong opposing color. He had seen the "impishness" of that calf, and needed eyes and legs and tail that would express that impishness. After working without success to make those eyes say what he had wanted them to say, he had gone to his mother for help. He didn't put in words the feeling he was trying to capture, but she inferred from his request that the eyes needed to be made a focal point and suggested, "Often a strong contrast makes a small object stand out—perhaps some white—" That was all he needed; he gave his calf a white face. He used this idea again later, tipping the calf's upflung tail in white and adding a white spot to each leg in a way that served to call attention to the stance of those legs and heightened the effect of poise for escape to the green pastures. When he had finished he surveyed it carefully and made a single comment, "I wanted more calves in there but I couldn't get them in right." Then he laid down the picture and ran off to play. He had "said" what he wanted to say. The product of his "saying" had no value for him.

He was motivated on both of these occasions by a feeling of need to express impressions, not by a desire to make an art product. The process, not the product, was the important thing. School exhibits, programs, the practice of grading

children's work, and parents' proud exhibition of their children's art products to friends conditions the child to satisfaction with the product rather than the doing and thus tends to direct the attention from creating a product that expresses an idea to mere rendering.

Paint was chosen from among several mediums as the one best adapted for "saying" this particular experience. After his visit to the zoo he expressed the bulk and strength of the elephant in clay and the gentleness and tenderness of the mother lioness in fine white soap carving. He was having the opportunity for experimenting and selecting the medium in which he could best express a given mood or idea.

Jack's selection and arrangement of objects was directed primarily by what he had seen, not by art principles. He had the habit of experimenting with the selection and arrangement of shapes and colors, not as ends to satisfy art principles but as means to the end of expressing the mood or idea he wished to convey. Through these experiences he was abstracting and recombining into generalizations for future use the elements of art principles. For example, his painting showed that he was creating a center of interest by use of more intense color, contrast in pose, and central location and converging lines. During this experience he added the use of a sharp contrast in color background for the center point. He used contrast again skillfully in the narrow strip of attention-compelling vista of lush green grass to be seen through the open stable door contrasted with the imprisoning walls.

Guidance given to Jack was given to help him express the idea he wanted to express. The monotony in his use of only bisymmetrical balance throughout the picture was not pointed out to him because no expression of need for it or of readiness to comprehend it was given until the picture had been completed. His guide, however, would be alert on a future occasion to say, "Step back here and look at your picture. Do you think placing your center of interest a wee bit to the left and putting two smaller subordinate objects here on the

right would balance that larger subordinate one there on the left? . . . Or would perhaps a ray of light down from this upper corner to your center of interest, balanced by a little larger subordinate object on this side or a richer color, be better?" Then she would let him experiment until he had made a choice. If he discarded all her suggestions and continued with bisymmetrical balance she would say no more for that would be a symptom of noncuidiness.

Years of natural development in clarifying his impressions through experimenting with such elements as lines, shapes, and colors had developed feelings of adequacy. The development of the experimental attitude is natural. The young child is impelled by intraorganic tensions to draw lines and shape whenever he has a crayon or brush in his hand just as he is compelled by intralogic tensions to run and jump and vocalize. The time comes when he sees a similarity between his lines and shape and some object of his environment. Then he names them. Later he learns to see these as elements which can be consciously combined to represent some object in his environment. At that point he says, "I'm going to draw a house," and sets out to draw it.

These pictured objects are what he sees and not what they are. There is a strip of sky above and a strip of ground below with emptiness between because he sees nothing between. A group of three-year-olds, who were painting day after day in a second story room with windows on one side looking out into the treetops and windows on the other exposing only sky to their range of vision varied this usual type and painted with no apparent imitation of each other, houses which had blue from top to bottom on one side and green on the other. They saw color, not empty space, when they looked out of the window. They weren't seeing the ground at all. For two weeks one three-year-old painted a red road in every picture. During the same period she expressed marked interest in roads on motor trips. One day she said, "And the road goes and goes and goes." The roads on which they were driving were not red.

roads. Perhaps she chose red because it was vivid and she was impelled to make a road that dominated the picture just as roads were at that time dominating her landscape. To have pointed out to her, as many mothers and teachers do, that roads weren't red would have been to have turned her in the direction of mere rendering and away from using art elements to express.

IMPLICATIONS FOR GUIDANCE IN LEARNING TO SAY

Implications from this illustration for guidance in helping the child to learn to say are:

1. Keep clear the distinction between *rendering* and *saying*. Rendering is portraying an object or scene naturalistically. Saying, in the sense used in this chapter, is "talking an experience through to one's self." Undoubtedly there is a place for rendering. This boy may have learned to draw calves, for instance, through copying pictures of calves and sketching calves naturalistically. Such, however, should be seen clearly for what it is—practice that develops technique only, and without aesthetic value except as that technique is used later in saying.

2. The child must have opportunity "to see" and "to say" as a child sees and says. No adult mind is qualified to dole out to him the experiences that will promote his growth. The adult, however, can learn to what manner of stimuli the child responds and place him in the midst of such.

3. The child must have an abundance of inexpensive plastic and graphic materials from which to choose when he has something to say.

4. Appraisal of an artifact must be in terms of how effectively and pleasingly the child "has said" what he has undertaken to say.

5. Emphasis must be on the process rather than on the product. The process is of value in clarifying and ordering impressions into an organic whole. The product has no value except as it stimulates another to see and to say.

6. The goal to be kept in view must be the artist mind—a mind that sees the organic wholeness of the movement and beauty of living—rather than the artist hand as an end in itself.

LEARNING TO CHOOSE

"Let's go to the show."

"O. K. What's the picture?"

"I don't know, but what's the difference? It's something to do."

"Something to do" is the basis for choice of movies, radio programs, and reading that appears to prevail today. A further requirement is that the something must require little mental effort. The result is a diet of oversimplified and distorted pictures of living that does not strengthen for living in a complex age.

The root of this problem of second-rate entertainment is *the need felt*. People will continue to choose that which satisfies felt need. The need for passive amusement cannot be ascribed to laziness inherent in human nature. Modern psychology questions that genes can carry any such characteristic as laziness. If humans are lazy they have learned to be so.

How? One is conditioned to like what he has found satisfaction in doing. Of several hundreds of college students who were asked to analyze childhood reading experiences, fifty per cent reported they had enjoyed reading. Only eight per cent reported they had read books which stimulated them to think. The others who had enjoyed reading had read merely for "something to do." The majority of these had been children who had few playmates or could not play well. Their reading was an escape.

"Liking to read" has been considered a virtue in itself. What is read, so long as it is harmless, has received little thought. The same has been true of radio programs and movies. It is not surprising in the light of the very short time we have had facts about the importance of childhood ex-

periences in determining the whole course of development.

A second reason for the triteness of entertainment available for children is that it must be created by adults, and it is difficult for the adult to strike the child's mental stride. This is being done now in literature, but the good books aren't getting to the million. Schools are preoccupied with giving information. Any book that contains information is likely to be selected regardless of its potentiality for helping the child to see more deeply into the significance of those facts for everyday living.

Also, schools are still regarding all eight-year-olds as essentially uniform. The teacher assigns the same "reading lesson" to forty children, asks questions to test their comprehension, and deludes herself into thinking that all forty "learned something."

Script writers for children's movies and radio programs aim to amuse, just as many writers of children's books of two decades ago were aiming only to amuse. Their subject matter is often trite. Having adult minds, they portray children's problems as measured by the adult's not the child's mind. They have the pattern of the plot for adults fixed in mind. Consequently, they build a long sequence of relationships which the child with his shorter attention span and need for seeing the same things from many angles can comprehend only as unrelated parts. So long as he cannot see relations, he is getting only the satisfaction which is likely to perpetuate the "something to do" motive for going to shows and so continue to fill the money boxes for shows that do not nourish vigorous mental activity.

Teachers and mothers must work for movies and radio programs that not merely develop concepts elementary enough for children but that will help the child to see more widely and deeply in all his everyday experiences. Script writers who can strike the child's mental stride must be sought for this work. Improvement will be slow, however. Meanwhile something must be done for children today.

A promising attack upon this problem is better utilization of the available resources for widening and deepening sensitivity to the beauty and movement of life—children's books that rate being classed as literature, masterpieces in art, music, and dance. Visual experiences in these, with opportunities to express their impressions, will tend to make children dissatisfied with trite things that leave only second-rate impressions.

A vital question at this point is, "How can we lead the movie- and radio-fed child of today to look at works of art?" In *Literature through Exploration*, Louise Rosenblatt has given three suggestions that apply equally well to other fields of art. These are:

1. Free the child for spontaneous response. This would entail the abandonment of our lock-step system of requirements and of grades or other rewards for responding as Teacher or Mother would have him respond. Give him freedom to respond in his own way and at his own time.

2. Broaden the framework for response. If the child's high level of appreciation is below what it is reasonable to expect of that particular child, the cause lies in the equipment of concepts and attitudes the child has for appraising values. He needs experiences that will expand these.

3. Help the child to understand his own emotional pre-occupations. This entails the need for rapport between the teacher and each individual child that will encourage the child to give his confidence; for a will on the part of the teacher to help the child to grow, rather than to mold him in the image of her thinking; and for skill in stimulating a healthy measure of self-analysis.

Equipment for such a program of education for choosing would include many masterworks in every field of art. These masterworks should cover a wide enough range of subject matter and complexity to provide amply for every child in the school. They should be made available to him at all times. For example, there should be a library of recorded music to

which any child could go at certain "free choice activity hours," and several victrolas in soundproof cubicles where he could be alone to give the response he felt.

THE GOAL ENRICHED LIVING FOR ALL

Father and Son were watching twenty half-grown hogs eating their corn. Father stood at ease, oblivious to everything except the pushing, munching hogs. Son alternately watched and experimented with rhythmic movement—running, swinging his arm, playing his fingers over the top rail of the fence—obviously suggested to him by the movements of the hogs. Sometimes he accompanied this movement by imitative sound. He noted the individual differences of the hogs in both movement and sound and imitated first one then the other. He did not reflect upon the experience he was having. He was expressing what he was feeling through bodily movement.

Father's attention was focused upon lines and shapes—the curves of the hogs' back, the twist of the absurd tails, the upward thrust of the legs against the falling weight above, the varying angles of the bodies to the troughs. Occasionally his eyes wandered to the shelter house, and his body tensed. There was something wrong about that shelter. It didn't belong.

Mother was hurrying down the path in a state of disequilibrium. Her men folk "were probably standing watching those disgusting hogs again while dinner spoiled." She stopped as she caught sight of them. Pulls of antagonistic muscles balanced, breathing became regular, her heartbeat increased. She felt an ecstatic thrill as she caught sight of her blue-overalled men folk leaning against the weathered gray board fence. Marginal in her consciousness was the color pattern beyond—brown-black hogs merging into black-brown earth, spots of yellow corn and red cob, emerald-green grass. She sensed their strength and felt secure; she sensed their weakness and felt protective, she sensed their fitness for what they were.

and felt peace. She didn't know this was what she felt. She only knew the spoiled dinner was no longer so important.

Son saw Mother and ran to her. Father turned, grinned guiltily at the thought of another dinner spoiled by waiting thus, picked up his basket, and started toward her.

As they walked back to the house Father and Mother discussed the choice of marketing the hogs now as lights or feeding them until they could be marketed as heavies. Son remembered his rabbits and rushed ahead to feed them. All three had returned to the world of practical demands. But the experience at the hog lot had left its trace. They ate supper in that feeling of oneness which follows a shared moment of ecstasy. After supper Father and Son finished the barn chores and Mother washed the dishes. Each felt a peace, a freedom from the ubiquitous irritations of routine tasks, and an exhilaration, without full consciousness of such feeling.

When the work of the day was finished, each sought to recapture the experience of the afternoon through re-creating it. Son picked up his drum and re-created the pattern of rhythm accompanied by the squealing with which he had experimented at the hog yard fence. Father sat for a while in a deep study. He was trying to discover why that pigsty didn't belong. He decided he needed something with a lower center of gravity, something, perhaps, more weighty yet supported by slender strength. He began experimenting with Son's small blocks. Then, dissatisfied, he got a ball of clay from the pottery jar and started modeling a hog. He was still thinking of that contrast between falling weight and uplifting slenderness. If he could capture that feeling in clay, perhaps he could design the sty that would fit.

Mother decided to change the pattern she had selected for that new quilt. She had chosen it because she thought the quilt Mrs. X was making with it was pretty. Now, without knowing why, she wanted something simpler and stronger that suggested a farmer's, not a debutante's bed. As she searched for the pattern she planned the colors. She visualized

the blue of much-laundered overalls, a brown that seemed to be the brown of all the earth yet unique among browns; a green that suggested all grass and yet matched no other grass. She didn't realize that what she was trying to re-create was the color pattern that had been a part of the total stimulating situation which she had experienced that afternoon in the hog lot lane. She visualized fabrics, too. They must be honest fabrics—cotton made of cotton or wool made of wool. They must be tried fabrics—worn, yet with the strength to stand a thousand washings. They must be simply woven—the “under one over one pattern” of the first weaver that is still the strongest of all patterns. She didn't know that it was the qualities she saw as she watched her men folk leaning against the fence that she was seeking to express.

Son called, “Mother, I have something here. Listen to it, then play the piano with me, will you?” He played the rhythmic pattern on drum and traps with which he had been experimenting. Mother caught the spirit of what he was expressing and went to the piano.

They studied together until they had worked out an accompaniment that was mutually satisfying. “We'll call it ‘Corn Time in the Hog Lot,’ ” Son decided. “Listen, Father, to our new piece.”

Father paused to listen. He didn't praise. Son didn't want that. Instead he gave his considered opinion, “That's just about what I heard out there, too, Son, except it seemed to me to be held down more by something heavy, and Little Runt's squealing seemed to me more like the crying of a hungry child for his supper.” Son reflected a few minutes, then tried again. “I hear it that way too, now, Father. Could you make the bass deeper, Mother, and I'll roll that first beat more, like this.” They tried it several times. Father nodded, “That's it. That's what I heard.” Son put away his drum and got some clay. Mother returned to her consideration of quilt patterns. Son looked at his father's models. “Your hogs are standing still. Mine are going to be running and rooting

and pushing and squealing." Each was modeling the hogs he had seen.

All worked in silence. Father captured the feeling he had undertaken to capture, and with his models before him turned again to the blocks. This time he worked with speed and sureness. He finished and called Mother and Son to see. They saw what he was trying to create and suggested a change or two that would help them get the feeling he was seeking to express. He changed a line here and another there. They looked at Son's models and commented upon the feeling of action expressed but didn't comment upon the strange facial appearance because that was irrelevant to what he was seeking to express. Mother suggested that a study of the ham bone might help him to discover why he couldn't make those hind legs look as though the hog was really running, because that was relevant. They went to the kitchen and sliced the rest of the meat from the bone of the boiled ham they had had for supper. Son studied it, then remodeled his hog. Satisfied at last, he put models and unused clay back in the jar. The challenge had been in the doing. He was not interested in the finished products.

He went to the radio and worked the dial until he got "Volga Boat Song." Sitting on a stool, he swayed his body in time to the music. When it was finished he turned off the radio and ran to the Victrola, found the record, "Volga Boat Song," and again swayed to the tune of the music. Then he exclaimed, with the excitement of the discoverer, "Say, that isn't just as the radio played it. It isn't much different but I can feel a difference—the radio played it like this" (he repeated his swaying to the rhythm of the radio orchestra) "and the record was like this. It's as though I'm tired when I do it to the Victor record."

Mother discussed the differences in artists' interpretations of other artists' creations. The idea was new to him. He went to the piano and tried different interpretations of the piece that was his music lesson that week.

Mother put away her patterns and turned to a copy of Emily Dickinson's poems. Dimly she felt that the poet was saying for her what she hadn't the words to say. When she found especial satisfaction in one, she called upon Father to listen. Father nodded in understanding and appreciation, then turned his attention back to his contemplation of a colotype reproduction of Allen Saalburg's painting "Wild Horses." He was seeking to discover what Saalburg had seen as he was looking at those wild horses. As he studied, he felt lifted into the world of the wild things, he thrilled at the boldness of the freedom and color of that world.

Son turned on the radio again to his favorite program—a series of dramatizations of child life in parts of the world from which materials for the automobile are procured. At its end he raised questions: How much of the money you paid for our new car will go to these people? What will they do with it? What did they do before automobiles were made? Were they as happy as they are now? If we learned how to produce all these things in our country and don't buy from them any more, will they be unhappy?

Father and Mother joined in discussing these questions with Son but didn't try to answer them. Glib answers would have been dangerous. The process of sensitizing seemed to them more important than the product of information.

Son went to bed. Father and Mother continued their reflections on the level of more complex relationships, such as: What commercial interests had done for and to primitive peoples through sudden introductions of wants descriptive of their ways of life.

Daughter entered. When she had left work five hours earlier she had felt out of step with the world. A half-hour among the marble and bronze statuary at the art museum had so reduced the size of the annoyances of the day that she could smile at them. In a quiet tea room artistically decorated she had eaten food artistically prepared. On the way from there she had stopped to watch truckmen stripped to the waist loading

their trucks. As she watched their rhythmical, economical movements she had begun to "feel" a dance. She had hurried to the Arts Club of which she was a member and, entering a tiny studio alcove, sought a Brahms record and had danced there alone, not a representation of the truckmen's loading but an expression of their power and agility. She had left the studio feeling energized and back in step with the world. Then she had met friends and gone to a movie. It wasn't a movie that oversimplified life and left you vaguely dissatisfied without knowing why. It was one that made you feel that life was the more interesting for its complexity and tingling with eagerness to get back into the struggle.

They had all discussed the movie, stimulating one another to see more deeply into the problem of living it had portrayed and to clarify their impressions through verbalizing them.

The day was done—just another day lived zestfully and effectively because they were learning to feel more deeply and widely, to understand what they were feeling, and to see the beauty and movement of life.

QUESTIONS AND EXERCISES

1. Aesthetic experience is more significant in life in most primitive societies than in contemporary western civilization. Suggest factors that might account for this.
2. Rethink current practices in art education in formal schools. Do you agree that art so taught is a failure? Explain.
3. Miss A teaches children whose environments have been bounded by nursery walls. She lets them create one hour each day. During that hour she withdraws from the group in order to give them more complete freedom to express themselves. Results are discouraging her. There is neither variety nor evidence of growth in their products. What would you advise Miss A to do?
4. An art teacher said, "I always tell children what to do and see that they do it. Children are naturally lazy and won't do things unless you make them." Point out the fallacies in her theory.
5. A father proudly displayed a portfolio of drawings of engines

as evidence of his seven-year-old son's talent in drawing. These were remarkable reproductions. No essential was omitted, proportion of each part to the whole was true, etc. Project and appraise the art experience this boy has probably been having.

- 6 The seeing end of the aesthetic experience is generally neglected in art education programs. Review the theories of child nature that have shaped formal educational practice to explain this neglect.
- 7 What difficulties do you see in administering an expressive or creative period that would permit each child to 'say what he had seen' and choose his medium for saying?
- 8 Think of a particular child who needs to learn to see more. Utilize the clues given in this chapter in planning needed experiences for him. Try the program out and evaluate results.
- 9 What would you say of the suitability of body movement as a medium of expression for young children? Should schools provide more opportunity for natural dancing? Explain.
- 10 What are the dangers in the practice of having the creative period followed by children's criticism of one another's work? Do you recommend abolition of this practice or reconstruction to eliminate dangers? Defend your answer.
- 11 A group of third-grade children spontaneously reacted to the story of Hansel and Gretel in dramatization and dance. They enjoyed this so much that they repeated it again and again. No two repetitions were the same. Every child in the room participated creating for himself a role each time it was played. He seldom took the same role a second time. Finally the teacher suggested their mothers might enjoy sharing the experience. They decided to invite them the next day. The teacher selected the characters by merely saying, 'John, would you like to be Hansel?' She selected children for the major roles who needed the experience, not the ones who could do the best. Costumes were planned that afternoon and made in school the next morning. There was a dress rehearsal which wasn't a rehearsal to the other children but 'sharing with the fourth grade.' Before the children came in the teacher told the mothers that it was a serious play to them and laughs from the audience would do much damage. Contrast this with the giving of a ready-made operetta and evaluate.
- 12 Does the phrase, 'incidental learning of technique' precisely characterize the theory of learning technique set forth in this

Chapter 14

Play Life of Children

From the beginning of life there is a response to the environment in the form of activity which is spontaneous and natural. It seems purposeless and useless, and yet it has a stabilizing effect upon the whole organism. An attempt to understand the nature and function of this type of activity, which is called play, has occupied the minds of philosophers for ages. Various theories regarding play have been formulated. These theories differ widely, but each has contributed something of value.

THEORIES OF PLAY

The surplus energy theory. From ancient times has come the theory that energy that is not needed finds an outlet in useless activity. This is sometimes called the Schiller-Spencer theory, although reference to this explanation of play was made long before these authors' names were used in connection with it. It is an error to present Herbert Spencer as a sponsor of this theory, since in his careful analysis of play he makes an entirely different explanation. Schiller, too, makes only incidental use of the idea. Regardless of the origin of the theory it is true that babies kick and squeal, children skip and jump, boys race and play ball, for no other reason than to work off surplus energy. This theory does not cover the whole field. Children play when they do not have surplus energy, as in the case of a sick child. Many activities that are considered play do not require much energy; in fact, they

may be the means of building energy. The theory does not tell why play takes particular forms, nor why play interests vary and change from stage to stage in the child's development.

The preparation for future adult activities. This is a popular theory which was originated by Groos, a Swiss psychologist who made an elaborate study of play in young animals and children. He regards the various forms of play in which animals and children engage as instinctive drives to prepare them for the serious tasks of adult life. The kitten that runs after a marble is unconsciously learning how to catch birds. The little girl who plays with her doll is unconsciously learning how to care for a baby.

According to modern psychology, this theory does not stand. The child learns much in play that will help him in future life, but it is not instinctive preparation. He learns much through play, but he does not play to learn either consciously or unconsciously.

The recapitulation theory. That the child in his play lives over again the racial experiences of the past was the attractive and alluring explanation which the master mind of G. Stanley Hall gave for play. He said:

True play never practices anything racially new. I regard play as the motor habits and spirit of the past of the race, persisting in the present as rudimentary functions sometimes of and always akin to rudimentary organs. The best index and guide to the stated activities of adults in past ages is found in the instinctive, untaught, and non-imitative plays of children which are the most spontaneous and exact expressions of their motor needs. The young grow up into the same forms of motor activity as did generations that have long preceded them, only to a limited extent, and if the forms of every human occupation were to change today, play would be unaffected save in some of its superficial imitative forms. It would develop the motor capacities, impulses, and fundamental forms of our past heritage. Thus we rehearse the activities of our life work in summative and adumbrated ways. Thus stage by stage we re-enact their lives. That is why the heart of youth goes out into play as into nothing else, as if in it man remembered a lost paradise.¹

¹ G. S. Hall, *Youth*, New York, Appleton-Century, 1920, p. 74.

Hall worked out his theory in great detail, and for some time it influenced the building of elementary curriculums. Since six-year-olds were passing through "the stone age," their activities included the building of caves and the making of mud pies, while the nine- and ten-year-olds were making baskets, bows and arrows, and pottery, as they were in the "big Injun" period.

After many years of discussion and experimentation, this theory is thoroughly discredited. Scientists do not accept the inheritance of acquired characteristics. Studies such as Lehman and Witty made have determined that specific play interests do not characterize definite ages and these interests vary according to season, sex, and locality.

The instinct theory. McDougall held that play is due to the premature ripening of instincts. He says:

If we ask—In what does this special adaptation [play] consist? The answer is—It consists in the tendency for the various instincts to ripen and to come into action in each individual in the species before they are needed for serious use. . . . Play, then, is determined by the premature ripening of instincts. The ripening of any instinct in individuals of any species is liable to be shifted forwards or backwards in the age-scales during the course of racial evolution, so that the order of their ripening and of their appearances in the individual does not conform to the law of recapitulation.¹

Since the emphasis upon the theory of instincts has lessened, the theory of McDougall does not seem adequate to explain the great variety of forms of play.

The relaxation theory. In recent years Patrick has brought forth the older theory that play is necessary to relieve fatigue which results from performing the daily tasks of life. He believes that modern civilization, involving as it does concentration of attention, abstract reasoning, and the use of the smallest muscles, puts a severe strain upon the adult and brings about rapid fatigue. Relief can be obtained by engaging in such activities involving use of the racially older big

Wm. McDougall, *Social Psychology*, Boston, Luce, 1918, p. 111.

muscles, as hunting, fishing, swimming, and hiking. Children, like primitive man, Patrick asserts, do not have the higher brain centers developed, so it is impossible for them to do anything except play. The theory is suggestive and important in that change of activity and need for relaxation are emphasized. Children as well as adults become fatigued if they engage in any activity continuously. In the mad rush of modern life many adults do not realize that personality, in order to be well balanced, needs the release of tension through pleasant and restful relaxation. The theory is not adequate, however, in that there is no proof that the higher brain tracts fatigue rapidly, nor is there proof that racial habits are inherited.

Play is life. Each of these traditional theories contributes something to the explanation of play, but there are certain inadequacies in each, as has been suggested.

Dewey believes that play can be explained on the basis that all organic beings are naturally active. He says:

As a matter of fact, however, the theory of surplus energy seems to be influenced by a survival of the once general conception that individuals are naturally averse to any kind of activity; that complete quiescence is the natural state of organic beings; and that some fear of pain or hope of pleasure is required in order to stir individuals to effort which in itself is painful. The fact of the case is that from intra-organic stimuli, the organism is in a constant state of action, activity indeed being the very essence of life. When the myth of natural quiescence is surrendered with its accompanying myth of the need of a special premium in order to arouse an inert agent, it ceases to be necessary to search for any special object in order to account for play. The only thing necessary is to state the conditions under which organic activity takes this or that form.¹

In the light of modern thought, Dewey's theory seems the most acceptable.

CRITERIA OF PLAY

What is play? The philosophers disagree and the psychologists disagree. Why is there disagreement? It is due to view-

point. Early writers thought that play was a waste of time, nothing of value was accomplished through play, work and play were entirely separate. The aim of education was work which would bring about desired results, and play, being useless and aimless, produced nothing of consequence.

Writers of today have a new viewpoint. Work and play are not two separate activities. There is no distinct line of demarcation between the two. They overlap, and at times it is difficult to see the difference. Whether an activity is play or work depends entirely upon the attitude of mind, which is the result of the individual's experience. To enable us to understand why an experience is regarded by one individual as play and the same experience is regarded as work by another individual, certain criteria of play need to be understood.

Play is pleasurable. Healthy children do not need to be urged to play. They play because they want to play. To them play is an end in itself. The greater part of their waking hours are spent in some form of activity which brings satisfaction, and satisfaction results because they think the activity is fun. Some children may think it is fun to help with the washing, run errands, rake the yard, and feed the chickens; other children may find such activities drudgery. Some adults enjoy their chosen vocations so much and become so absorbed in them that they take on the aspects of play. Edison said that he never worked a day in his life and yet he spent all day and every day, and half the night, in his laboratory actively engaged in experiments that were to be of lasting value to mankind. The activity is not the important thing, but the attitude of mind one has toward it. To make an activity play, the attitude toward it must be pleasurable.

Play involves freedom. Spontaneous action is usually accompanied by the play attitude. Watch a group of children just out of school. If left to themselves, there is no idling, dawdling, or resting. There is running, shouting, and wrestling. This spontaneous activity may give way shortly to more definite group play. The results are the same. The activities

are satisfying and pleasurable because they are not forced or necessary.

This freedom from conflict distinguishes play from work. Whenever a child's attitude toward an activity is free and experimental, the activity partakes of the nature of play. Problems may arise and conflicts exist in a smooth-running, spontaneous activity, but in so far as the activity as a whole is enjoyed for its own sake these problems do not make work out of it, but serve instead to challenge the child to further activity.

Play is strongly motivated. Pleasurableness and freedom characterize activities which we call play, but not all behavior in which these elements exist is play. The activity of eating may be pleasurable, but it is not necessarily play. The activity of going to school involves no conflict, and while the child may play on the way the activity in itself is not play. If two children started from home at the same time and took different routes to see which would arrive at school first, the element of play would be present. A child of four or five years of age may take great delight in sliding down a slide in the usual manner until he sees an older child slide down backward. This stimulates the young child to attempt the same feat. When he accomplishes this skill his play is motivated again by trying to slide down without holding on. From week to week his play on the slide gives more and more pleasure because he achieves the thing he sets out to do. This activity possesses pleasurableness, freedom from conflict, and an added element of strong motivation.

This criterion for play will hold for the highly organized games of youth such as baseball and football. To outsiders much of the time spent on these games seems to be work if not drudgery, but to the players the efforts are so highly motivated that they get joy out of it. Motivation on a high level is an important element in play.

Definition of play. From these criteria play may be defined in the words of Gulick, "Play is what we do when we are free to do what we will."¹

¹ L. H. Gulick, *A Philosophy of Play*, New York, Scribner, 1920, p. 267.

FACTORS INFLUENCING PLAY

While play is universal, there are various factors which influence it, such as age, sex, intelligence, and environment.

Age differences. Every age is characterized by certain play interests. To illustrate, the baby very early in life receives much satisfaction from kicking and waving his arms. He enjoys cooing, gurgling, blowing bubbles with his lips, splashing water, and crumpling paper. Soon he can play "peek-a-hoo" and "pat-a-cake." In fact, the baby's waking moments are filled by play. From observation, illustrations could be given to show that certain play activities dominate the play of the young child.

It is not so important to emphasize the differences of play activities of each age period as it is to realize that there is continuity in play behavior. The changes in play interests are never abrupt. The play trends observed in children of a given age seem to be the result of gradual changes that occur during the growth period.

In the nursery school and kindergarten there is more play beside other children than with other children. As the child grows older he tends to become more social in his play and he engages in more and varied activities. With added maturity the player becomes somewhat more individualistic and selective in his play. The number and variety of play activities decrease.

Sex differences. In early childhood, boys and girls enjoy the same play activities. There is some evidence even at this early stage that boys choose more active plays, while girls are satisfied with plays of the more passive type. However, other studies of preschool boys and girls showed that they were very similar in the vigorousness of their activities. Sex differences are most marked between the ages of eight and ten years. Boys prefer to play with boys and girls with girls. Other things being equal, both boys and girls prefer companions who are near their own age. Playing with dolls and playing house

are favorite plays of girls. Playing ball is most popular with boys of this age, though many variables enter into their play.

During adolescence boys engage in activities involving competition, dexterity, and skill. They are interested in organized plays and games as well as active, vigorous plays and games. Girls may enjoy the same games, but may feel restricted in their participation because of public opinion. They tend to engage in more sedentary play activities. In recent years, with the new health program in schools, public sentiment has changed in regard to the type of play girls need and they now enjoy more vigorous games.

At higher age levels, sex differences are not so marked. The sexes again tend to participate in the same play activities. Outdoor and indoor recreation is enjoyed rather than vigorous competitive games.

Mentality differences. Recent studies of the relation of play to intelligence do not support the popular opinion that with the increase of mental age there is a decrease in play activities. Lehman and Witty show that gifted children engage in the same activities as dull children. The gifted children's activities and interests are more varied than those of the less gifted. The superior children spend more time in reading. While they enjoy active games, both indoor and outdoor, they take less interest in social games and they prefer more mature games. The retarded children favor activities in which others participate and they avoid any plays and games, especially individual activities, where their special weakness would be evident.

Environmental differences. Since play is universal, play activities are taking place wherever children are regardless of season, place, space, time, companions, traditions, or fashion. Children living by the seashore in a mild climate play very differently from children who live in the mountains in a cold country. Country children with unlimited space may have less variety in their play than city children who are provided with adequate playgrounds. The children in the slum districts

may be no more limited in their opportunities to engage in group and competitive games than country children who have all the space desirable for any social games, but who lack companions.

At present the play life of the child may be seriously influenced by the attractions of the movies. Studies of this influence have been and are being made. The conclusions vary. Some show that the movie has a bad influence over children, while other studies seem to prove quite the opposite. However this may be, attendance at too many movies lessens the participation of the child in vigorous outdoor play, and the emphasis on crime, sex, and love does not contribute to the child's wholesome well-being.

VALUES OF PLAY

Play in childhood is a response to the environment and an expression of an urge for activity, pleasant and satisfying in itself. The child seeks no reason for his play nor does he question the outcomes. He plays joyously, spontaneously, and happily.

Physical values of play. As the child emerges from his many and varied play activities he has gained much that is of lasting value. He is physically stronger; his whole bodily tone is speeded up. The plays of childhood, running, jumping, climbing, bending, throwing, tumbling, stimulate the organs of the body to do their work more effectively. The blood circulates more freely and the elimination of waste matter is greater.

Large muscle development, which is of first importance in physical growth, receives an impetus through the vigorous exercise of the large muscles in play. These muscles grow larger and stronger, and motor skill increases, as the child engages in his various play activities.

The child who is active through play tends to resist disease and to avoid accidents more readily than the passive child. His many and varied play activities have so strengthened his

body and built up his reserve that he is not susceptible to illness and is able to throw it off very readily. He has developed an agility and bodily control that make him surer of himself in time of danger.

Thus from the standpoint of health building, muscle development, and resistance to disease, play is of great value in childhood.

Mental values of play. "Children learn by doing," and much of this doing is spontaneous and pleasurable activity.

It is through the experimenting with and the manipulating of the materials in his environment that the young child discovers the possibilities of these materials and gains definite meaningful impressions. He gets much pleasure and satisfaction out of such activities. The element of creativeness may enter in as the child sees new relationships and tries out new combinations. He gains a knowledge of his physical environment and his relationship to it.

As the child matures, his play interest widens and includes contacts with others. Through these contacts he gains new ideas, and his mind is stimulated. He gets the viewpoints of others and becomes more broad-minded. In his play the child learns to concentrate, to form judgments, to weigh values, and to make choices. With each new play experience, new concepts are gained and the vocabulary is enlarged.

Thus the child learns more readily and makes greater growth through play than through any other form of activity.

Social emotional values of play. Play is essentially social. Even the baby, who at first is happy in gaining control of his muscles, responds to the encouragement of the onlooker. The young child, while he is individual in his play, gets real satisfaction from being with the group. He learns through these contacts with others while at play that the playthings must be shared, that control of his own desires is essential if the companionship of others is to be his. The only child who comes to the playground to play on the slide soon discovers

that other children have the same desire and he must wait his turn or give up the activity.

As the child grows older and desires to participate in group activity he learns that cooperation is necessary for the success of the activity. He learns to submerge himself for the best interests of the group and to follow the lead of another whose ideas at the time are the more acceptable. He learns to take the lead at times and to successfully bring others under his leadership. He learns to adapt himself to many changes of activities and groups.

In his play the child comes to realize the need for standards or rules. At first he helps to set those standards, then he learns to accept and obey rules that have previously been set up. He learns to be a good sport whether he is the winner or the loser.

The White House Conference Committee on *Growth and Development of the Child* reports:

At first this social behavior, [play] is only an apparently casual interest, but it soon becomes active enough to cause the baby or small child to desire the proximity of other children. With other children near, it is evident that he watches more and more in detail what they are doing. Eventually he begins to find himself in the midst of the other children's activities, trying to take a part. His play is clumsy, so much so that the other children are unable to understand his interference. It is at just this point that the small child, undergoing experiences both pleasant and unpleasant, develops a conception that other children are people having feelings, desires, and wants like his own. Feelings of fear, anger, affection, loneliness, and joy are emotions which exert an influence upon social behavior. During the early stages, the problems of physical harm, domination of one child over another with subservience as a counterpart, taking turns, sharing and cooperating, become important as social behavior progresses.¹

If the child is given no outlets for his play tendencies, he seeks satisfaction in excessive daydreaming and withdrawal from the group. Good play habits will lead to overcoming

timidity, shyness, moodiness, oversensitiveness, and bullying. If left to himself, the child changes his activity as monotony enters in. Thus fatigue is overcome and irritability or combativeness is avoided.

Older children forget race or color differences and set aside all prejudices in their joy over the achievements of others. They ungrudgingly give praise where praise is due. The boy who makes the touchdown or the home run is cheered and admired irrespective of his place in life. The player who fights to the finish though it be a losing fight is given the wholehearted support of the group.

Thus we see that play in its many forms helps to socialize the individual, to unify the group, and to stabilize the emotions.

Personality, a value of play. If one wishes to see a child as he really is, one should observe him when he is absorbed in his play. It is here that he expresses his whole personality. Since personality is the result of all the factors of his experiences and personality traits may be regarded as those modes of behavior so characteristic of an individual that any other response would be unnatural, one can readily see that personality begins as the young child responds to his environment. Many of the behavior patterns formed in childhood can be detected in the adult. The baby who habitually smiles through his tears when he falls while experimenting with the new motor activity of walking, yet continues to persevere, is the youth who fights to the finish and comes up smiling when the game goes against him and is the adult who is self-reliant, well poised, and tolerant in the face of defeat.

In wholehearted play an individual is more truly adjusted than at any other time. The physical, mental, social, emotional, and moral responses are so interwoven in play that they can hardly be defined. Each one contributes to the total adjustment of the individual, but all are essential to make the adjustment complete.

What started as manipulation of material with the child

may give way to concentrated effort for a concrete result as the child's mind is challenged by the possibilities within the material. The physical and mental activity involved are very satisfying, and the activity to the finish is play. There is a feeling of exhilaration, of joy, of confidence which puts the child in harmony with himself. The satisfaction in such activity makes the child desire to express his satisfaction in some way, either by contacting his companions or by making further experiments with and explorations into his environment. These contacts lead on to further activity that is equally satisfying. Self-control, confidence in oneself, tolerance, creative thinking, and good sportsmanship, which are concomitants of activity that is satisfying whether results be successful or not, make for emotional balance, and the child is better adjusted to his environment and more in harmony with it. An individual who is in harmony with himself and in harmony with his environment has developed an attitude toward life in general that makes for harmony with life, and we have an integrated personality.

The educational significance of play. Since the study of play has shown that play is an attitude of mind and not any one type of activity, it has very definite value in the organization of school activities. Activity that is play has been found to be pleasurable, free from conflict, and highly motivated. The child's desire to learn and his readiness for the learning make the activity satisfying and pleasurable to him. That the modern school is utilizing this principle is seen in the readiness program which has been set up. We find reading readiness books and tests, arithmetic readiness tests, grouping of children on the basis of their readiness, elimination of grade lines, continuation of the child's natural play life, and the recognition that the spirit of satisfaction and pleasure in these activities is the essence of growth.

In the organization of the modern school we find no antagonism between the child's desire to learn and the teacher's intention to teach. The social atmosphere of the room the

informality of the groups, and the varied types of materials free the child from conflicts. Here we find the spirit of expression and not repression. The kindergarten child needs active play involving the big muscles of the body. Many behavior problems are avoided in school by the chance to relieve cramped muscles in climbing the ladder, swinging vigorously from a bar, or running and jumping. Such freedom of activity breaks tension, and the child is more able to get along happily with others and to concentrate on his problems.

The older child needs opportunities to express himself through various mediums so as to build up confidence in himself and to be in harmony with himself. The school that organizes its curriculum about dramatics, music, art, the shop, discussion of life problems, and delightful reading experiences and that fosters the creative spirit is establishing the spirit of freedom and releasing the child from inner conflicts.

As has been said, play is what we do when we are free to do what we will. This expresses the idea of choice and purpose. It shows that play is highly motivated. The modern school is realizing that learning must be purposeful to the child if it is to function in his everyday life. A practice period on the fundamentals is so developed in the modern school that the child realizes his need for such practice in a given situation or activity, and he determines to get control of the needed facts. Thus the practice period becomes a satisfying experience. The activities of ordinary school life such as reading and writing are being highly motivated in a variety of ways so that the child becomes absorbed in the activity and learning is facilitated. The experiences of school life are taking on the character of a democratic society, and the children are having a voice in determining the selection of these experiences. The interests as well as the needs of the children are being considered. Thus we see that the elements of individual choice and idea of purpose are being recognized as essential in modern education.

Making school life pleasurable, free from conflict, and in

accordance with the purpose of the child does not mean making it easy and of little intrinsic value. Play is not a lazy activity, but requires exertion and persistence. Who has not marveled at the concentration and energy a child puts into his play to come out fatigued, perhaps, but satisfied.

Educators are beginning to appreciate the significance of the play spirit in school and in life's activities, but there is much that needs to be done in utilizing this integrative force that we may have the truly educated person.

Studies of play. Many questions are in the minds of parents and teachers today in regard to the play activities of children. They want to know the differences in play activities of young children and of older ones, what play materials are most desirable for children of different ages, how play can develop leadership, and how play can be guided to bring about adjustment to life.

In recent years, through careful research, investigations have been made which have partially answered some of these questions. Much further study needs to be made before play, which is such a complex activity, will be fully appreciated and understood.

In making studies of play various techniques have been used, such as observation, questionnaire, and check list.

Based on an observational study of her own son during his first year, Mrs. Fenton made the following record:

First and second month: Vigorous muscular activity consisting of kicking and waving of the arms in complete abandon. Some cooing and gurgling.

Third month: In addition to previous play he learned to play more specifically with his hands and to make more babbling sounds. He was constantly feeling his clothing and everything his hands could touch. Having grasped things he would shake them - his rattle, for example.

Fourth month: Reached for everything, grasping, shaking, and putting to his mouth everything he could get hold of. He enjoyed crowing, laughing, shouting, trilling, and blowing bubbles with his lips.

Fifth month. More elaboration of vocal play was apparent. Made plopping noises and clicks. Visual activity became more pronounced. He stared continuously at his own hands, his toys, and everything around him.

Sixth month. Laughing was observed. He began to play games such as dropping his toys to see or hear them fall, pulling them back with the string to which they were attached.

Seventh month. His play now began to take more the form of manipulating things in the environment. He would shake and crumple paper, play with spoons and cups, pull off his cap and stockings, splash the water in his bath, greet people by waving arms and shouting, and played a sort of peck-a-boo.

From this period on, his play is merely a record of his progressive acquaintance with his environment. The description of his play is virtually an account of the development of his motor coordinations. He learns through playing and for this reason, it is easy to favor the utilitarian conceptions of play and to believe that play is a device to enable the child to learn. The conception of Dewey seems more appropriate: the child's life is play. If he plays much, his life will be full and he will learn much.¹

Bott studied a group of nursery school children to discover which toys were most popular. The toys were classified as pattern toys (beads, puzzles, tinker builders, peg board, wooden doll), raw materials (beans, blocks, color cubes, a blackboard and chalk, spools and small blocks), locomotor toys (trains, tricycle, wagon, kiddy car, doll carriage, ball, and hobby horse), and small mechanical toys.

* The young children showed little discrimination in the choice of toys, dividing their time about equally among the different groups of toys.

Pattern toys were enjoyed by the younger children merely for the play possibilities. Older children put them to a more definite use. Bott says,

In pattern toys, where structure largely prescribes use, a child must not only have an idea of what he is trying to make, but must be able to adapt his idea to his material: he must also be capable of fine motor coordinations. The youngest children are not strongly

attracted by pattern materials nor do they avoid them, but rather disregard the structural meaning which is patent to those older; that is, they experiment with them as raw materials, thereby somewhat nullifying our classificatory scheme.¹

Raw materials were more popular with three- and four-year-olds, but were enjoyed by older children. Bott says: "They are deservedly popular in all age groups."

Locomotor toys seemed to be equally popular with all age groups including adults. Each group spends about the same proportion of time with them. The preference for certain types of locomotor toys varies with the age of the individual. Interest comes first in the kiddy kar, then the tricycle, then the bicycle, and in adult life the automobile and the airplane.

Mechanical toys make a greater appeal to adults than to children, and are purchased by them many times regardless of the expense. In the study, children of each age group showed the least interest in these toys because they require so little of them. These toys can be pushed or wound up and watched. Children desire toys that challenge them to more activity.

Van Alstyne investigated the reactions of over 112 children to twenty-five types of play materials in free play situations in nursery schools and kindergartens. It was the first study to be made with this large number on four age levels. The gradual character of the change in interest in play materials from two to five years was emphasized, but children of all age levels were outstandingly interested in blocks, clay, and the doll corner. The two-year-olds showed the highest interest in clay, doll corner, painting, and blocks. The three-year-olds showed more interest than the two-year-olds in wagons and books. The four-year-olds showed more interest in balls, beads, small cars, and scissors. Crayons have more interest for the five-year-old. Boys and girls in their choice of play materials showed greater similarities than differences. Boys

tended to select materials calling for active play, while girls chose materials calling for passive play and showed a slightly longer attention span on these than on active materials. Boys showed more interest than girls in dump trucks, wagons, and small cars; girls showed more interest than boys in dolls and doll corner, crayons, scissors, clay, colored cubes, beads, wooden animals, and books.

Another observational study by Farwell of 271 kindergarten, first and second grade children's reactions to constructive play materials showed that cardboard and paper construction material were not popular. Blocks were the most popular with boys, though this interest declined as the boys grew older. Painting and modeling materials were popular with both boys and girls. Boys were not interested in sewing materials while girls showed a preference for these materials next to painting and modeling. On the second grade level, girls become more interested in paper construction material. Boys did not show much interest in paper construction material at any time.

In regard to the proportion of time spent by preschool children with materials, Van Alstyne found that ninety-eight per cent of the time the 112 children observed were playing with materials, about ninety per cent of the two-year-olds played by themselves, and almost seventy per cent of the five-year-olds did not actively cooperate with one another. From this study, and from the one made by Arrington which shows that three-fourths of the time of the two-year-olds is spent with materials, it is very evident that preschool children have a greater need for play with materials than for play with others. Other findings by Arrington were that one-eighth of the preschool child's time is spent in physical activity and one-eighth is spent in day dreaming and inactive watching. As the child gets older, the time spent in the inactive watching decreases and the time spent in physical activity increases. Van Alstyne found that there was a consistent increase in the length of the attention span from year to year. An average

increase of about two minutes between each age level was found. The mean for the different ages was 6.9 minutes for the two-year-olds, 8.9 minutes for the three-year-olds, and 13.6 minutes for the five-year-old group.

Mrs. Bott in her study of sustained attention has a different set of figures. Her averages vary from one to seven and one-half minutes for the two-year-olds, from one to twelve minutes for the three-year-olds, and from one and seven-tenths to fourteen minutes for the four-year-olds. Different children and different circumstances influence these results.

To discover the most popular play activities of children, Chase used the personal observation method. His study was carried on over a period of two years in the crowded tenement districts of New York City. As he walked through the streets he recorded the different games that were played, the number of children playing each game, the amount of interest in the game, and the date.

A somewhat similar study was conducted at Ipswich, Mass. Observers stationed at various points in the city recorded at a given time the play behavior of all the children in sight. The observers felt that this would result in a cross section of the play life of the Ipswich children.

Cleveland, Ohio, attempted the same type of study although on a much larger scale.

Such studies are of greatest value to playground supervisors.

In 1923-26, Lehman and Witty used the check list technique to make a thorough investigation of children's play activities. Children of varying ages who could read were to check from a list of two hundred activities each one in which they had engaged of their own free will during the week preceding the date of the investigation. They found in comparing play activities of younger children to those of older children that in general the youngest children (eight and one-half to ten and one-half) engaged in the following activities:

1. Activities involving pleasurable bodily movements, usually of a rhythmic sort.

2. Activities involving hiding and finding.
3. Activities involving the imitation of adults.
4. Activities involving a relatively high degree of skill.
5. Activities involving efforts at construction.
6. Activities depending for their enjoyment primarily upon sense organ stimulation.
7. Tag games.
8. Singing games and ring games (for girls chiefly).

At the upper age levels the same activities were enjoyed with the exception of:

2. Activities involving hiding and finding.
3. Activities involving the imitation of adults.
7. Tag games.
8. Singing and ring games.¹

This study showed also that the most important characteristic of play behavior was its continuity; that the play interests of groups of children of different ages are rather permanent, with gradual changes due to the growth period; that there is no age group at which difference in play interest shows up or diminishes quickly; that as age increases individuals become more conservative in their play.

SUMMARY

The study of play shows that, though there are many theories as to its purpose and origin, play is a natural reaction of childhood. It is the satisfaction and enjoyment that comes from activity, satisfying in itself. This attitude of mind which is called the spirit of play prevails at all levels of life, varying in intensity with the maturity of the individual. Play serves as an integrative force in making for the better adjustment of the individual. Educators and communities are realizing this, and play is no longer thought of as a waste of time or a depleter of energy. The well-equipped playgrounds and indoor apparatus of the schools show that one value of play, the physical, is clearly recognized. The well-organized playgrounds and

¹H. C. Lehman and P. A. Witty, *The Psychology of Play Activities*, New York, A. S. Barnes, 1927, p. 72.

recreational centers in our towns show that communities are waking up to the value of one type of play, and we have supervised play. The other values of play, mental, emotional-social, and in development of personality, while not as clearly recognized or defined by the layman, are nevertheless felt in any school and community as seen in Boy Scouts, Girl Scouts, Brownie Packs, and similar organizations. With the broader conception of play, that it is not the mere spontaneous activity of children but that it is the attitude of mind individuals have when they are free to do as they will, it is more difficult to measure the results. We do not know how far-reaching this attitude of mind would be if applied to the life of today. There is room for much study and investigation.

QUESTIONS AND EXERCISES

1. Review the various theories of play. What elements are found in each that have educational significance?
2. List play material for children from four to six years of age. What is the basis for your selection?
3. What is the nature of the play and the playthings of preschool children as presented by Van Alstyne?
4. Give other factors that influence play. Illustrate.
5. What plays did you enjoy most in childhood? What factors influenced your choice?
6. Show how an activity which starts as play may become work to the child.
7. Consider the words *play*, *work*, *vacation*, *drudgery*, *amusement*. Wherein do they differ?
8. Quote the definitions of play given by three or four other authors. In what respects do they differ?
9. Give illustrations of play that reveal personality traits.
10. Make a list of habits and attitudes that can be developed through play.
11. Modern life is so organized that the child in the city has little opportunity to develop the muscles above the waist. What types of play activities can be encouraged that will make up this lack?
12. How do you account for the large number of mechanical toys on the market? Which toys would you select for the four-year-old child, the seven-year-old child, and the ten-year-old child?

13. List four activities for a day that you would classify as play according to the definition given in this chapter.
14. Present arguments for and against supervised play.
15. Take Lehman and Witty's classification of play activities of children from eight and one-half to ten and one-half and give concrete illustrations of games under each heading.

Chapter 15

Personality Development, Maladjustments and Mental Hygiene

GENERAL DESCRIPTION OF PERSONALITY

Meaning of personality. Every individual is a combination of traits, such as physical appearance, gestures, speech, ideas, emotions, habits, and skills. These characteristics function together as an integrated whole and constitute what is generally termed *personality*. One trait may be so dominant that other qualities lose their significance, yet all of them are important and most of them are possible of modification through education.

Factors of personality. In order to achieve the desirable development of a child's potential qualities of personality, we must first analyze the complex whole into certain basic factors which, in their interrelations, produce an entity having a balance and a coordination of responses to stimuli. We have therefore analyzed personality into the following basic factors, five in number:

1. *Physical structure.* The first set of traits to affect the individual himself and other people is the physical. Such characteristics as comparative height and weight, length of limbs, hair color and eye color, features, skin texture and coloring, and body proportions have a definite effect upon personality.

2. *Mental ability:* The extent to which an individual is mentally alert is of course a potent influence upon his adjustment to his environment.

This chapter was written by Lester D. Crow.

3. *Emotions*: Those responses of an individual which are commonly termed *emotional* cannot be considered to be separate and definite behavior patterns but are "complex habits based on many experiences which find their base in the glandular and nervous constitution of the individual and which act as drives to behavior which becomes socially desirable or undesirable."¹

4. *Aptitudes*: An individual's personality develops in terms of his ability to perform more or less successfully than others certain definite functions; hence the possession of a specific interest or aptitude as such must be included in any listing of the basic factors of personality.

5. *Environment*. No one lives in a void. The environment into which a child is born and all other environments to which he will progress are vital to the development of those inherent traits that constitute the whole individual or personality.

The effect of social heritage upon biological inheritance. To what extent does the child inherit his personality? A carpenter, a cook, or a dressmaker must have raw materials with which to work, but the results attained depend upon the treatment the materials receive. The product, though containing the finest of ingredients, may be unattractive and unusable or it may be classed as an example of fine art; less desirable raw materials, because of skilled and understanding treatment, may become good finished products. The same is true of the newborn infant. He possesses certain potentialities, more or less desirable, which need to be developed through the finest education or functioning that the environment can offer.

Habits and attitudes developed during the first six years of life have a fairly lasting effect upon the individual's later behavior. The mother who because of inertia or doting "love" does nothing to train her child in socially desirable behavior

is failing in her responsibility. Her excuse, when the child evinces selfishness, lack of emotional control, etc., that "the teachers will take it out of him when he goes to school" not only shows her own inability to meet the situation but also indicates that she is ignorant of one of the fundamental principles of psychology. In the same category may be placed those who accept the theory that nature must take its course and that, since there is a certain amount of "wickedness" in all of us, the sooner we get it out of our system the better. Another form of this lack of understanding of the importance of early training is the philosophy, too generally accepted in the recent past, that nature must be permitted to express her own "personality." Hence, if at table the young daughter of the hostess decides that nature urges her to pour soup down the collar of the guest to see what will happen, or if young son slides under the table announcing that he is now a tiger and behaves accordingly, a mother's comment upon the originality of her offspring may cause others to shudder at the thought of the forms this "originality" may take in later years.

Persons responsible for the maturing child must realize that the development of this individual is not a sole act but a group process built up as a result of innumerable actions and reactions, sometimes apparently infinitesimal and unimportant but always contributing to a complex whole. A teacher who is known to have an unusual amount of influence over young people often says to her classes, "You and I will all be different people at the end of this period, just because we have been together. Are you going to make me a better person for being with you for forty minutes?"

PHYSICAL STRUCTURE AS A FACTOR OF PERSONALITY

Body structure and health. A child is born. He weighs nine pounds or six pounds; he is either a sturdy youngster or a weakling. The underweight child, rightly, is cared for with an anxiety which is absent in the treatment of the more normal infant. But what happens as the child grows older?

If the weakling develops to normal growth, do the adults recognize this and treat him accordingly; or is he constantly reminded of the fact that he was a delicate baby and that therefore he must still be treated as such? The child may be taught to believe that he is different from other children and should receive special consideration. In this way a selfish self-centeredness develops which causes the child to be unpopular with his fellows; or the child may resent the "coddling" and attempt feats beyond his ability in order to show that he is no longer a baby. A child who is constantly reminded that he "almost didn't live" may grow up to be afraid of life and so may become hesitant about tackling issues and seeing them through. Another result of this early weakness may be the dependence of the child upon the parent. A mother tends to lavish upon a delicate baby care and attention which make him so much a part of herself that she cannot let him go, and there is developed a bond between the two which will prevent his becoming an independent person.

An unusually healthy and large specimen of babyhood may find later that this fact has a definite effect upon his personality. Parents tend to be unduly proud of such a child. Visitors are reminded that he was "such a big baby." Attention is called to the fact that he has consistently measured above average, that at two years of age he wore four-year-old clothes, etc. This emphasis upon a characteristic which is a matter outside his control may cause a child to develop a feeling of superiority to children of his own age that in turn will lead to an attitude of antagonism among them. This condition may be intensified by the attitude of adults toward him. Because of his vigor, especially if he is also above average in alertness, adults may treat him as if he were really as old as his size would seem to indicate.

Little Audrey is twenty-eight months old; physically, she resembles a child of four. Her family expects her to have a four-year-old maturity, with unfortunate results. In spite of her size, she is still a baby who should not be taxed beyond

her physical and mental strength. She is expected to endure long automobile rides. She is allowed to sit at table with adults, be stimulated by the sight of adult food which is denied her, and then told that a "big girl" like her should be ashamed to fuss. As a result of such treatment, a sense of thwarting may leave permanent scars upon the child's adjusting personality.

Eyes, hair, etc. Such physical factors as color of the eyes, texture of the hair or skin, are significant. Dickie has curly blond hair. Although he is five years old, his mother is unwilling to have his hair cut. His sister who is nine years old has straight hair of an indefinite brown shade. Both these children are affected by such remarks as: "Dickie, you and your sister should exchange hair." "Dickie, you should have been a girl." "Marian, why don't you steal Dickie's hair? It's wasted on a boy." It is not surprising that a feeling of jealousy should develop in Marian and that Dickie is constantly on the defensive when other children refer to him as a "sissy." Gertrude's mother is very proud of her daughter's blue eyes and usually dresses her in blue to match them, at the same time commenting upon the fact. Little three-year-old Gertrude is becoming quite self-conscious about her appearance and flatly refuses to wear anything except blue, preening herself when she feels that she is dressed appropriately.

Abnormalities. Perhaps the most serious effect upon a child of his physical appearance is that caused by an abnormality. Short stature in a boy, extreme tallness in a girl, ears that are large or badly placed, exceptionally large hands or feet, or more serious abnormalities are often real tragedies in the life of the child, especially if adults are unwise enough to focus attention on these factors. A child cannot forgive ridicule, even though it is given in the spirit of fun. Also unfortunate is an attitude of overprotectiveness on the part of the parent because of the disfigurement. Especially is this true in families where there are other children. A girl of twelve is very bitter because her sister, who is nine and suffers from a

slight limp caused by an accident in infancy, is the pet of the house. The older girl must give up her playthings, ribbons, etc., if the younger child demands them. Naturally, the latter has learned that she may have anything which her fancy dictates and uses no control, thus constantly antagonizing her older sister.

Adult attitudes. A child may be physically normal in every way and yet suffer because of adult attitudes. Florence resembles her mother in appearance. The mother has never liked her own appearance, referring to herself as a "monkey face." When Florence was born the mother exclaimed, "Another monkey face," and persisted in referring to her daughter as "Monkey Face." This situation was intensified when baby brother was born. He resembled the father's family and to the mother's thinking was an unusually handsome child. Little Florence was made to feel that she was personally responsible for the fact that she could not be so attractive as her baby brother, and she was forced constantly to relinquish to him all her own belongings, as well as to sacrifice her plans. The father, who admired the features of his wife and daughter, became Florence's staunch champion, with the result that a series of conflicts started between the parents which continued as the children grew up. The family is now definitely divided. The boy has developed into a typical "mamma's boy," while Florence has learned to play upon her father's affection to the point of causing open rupture in the family.

Development of desirable attitudes towards physical structure. What should be the attitude developed in a child toward his physical characteristics? Since the child is born with a certain physical constitution, there is little that he can do about it except to develop whatever physique he has through proper habits of eating, sleeping, cleanliness, carriage, and dress, and forget about it. That should be the philosophy of parents and friends. No undue attention should be directed to any physical characteristics except in a constructive way.

A child should never be led to believe that he is in any way abnormal. If there is a defect, it should be recognized by adults and by the child as soon as he is able to understand, but only in so far as the child may be influenced to overcome the difficulty or to accept it and compensate for it in another way so that he may be socially desirable.

Helen is definitely bowlegged. As a child this did not bother her, as she has always been a lovable youngster and popular with her group. However, when she entered high school she began to be self-conscious of her walk. Although her parents have little money, they realized that this condition would interfere with her normal development and had her legs operated upon. Now, although Helen is still in a plaster cast, she is happily tutoring in her subjects fully appreciative of her parents' sacrifice to give her this treatment, and determined to take her place again in her schoolwork and her group. Little Lavinia, two years old, has attractive teeth. Since candy is not good for her pretty teeth, she good-naturedly accepts the fact that candy treats are few and far between.

Adults have a real responsibility in this matter. Young children respond to the stimulation of their social environment earlier and more thoroughly than is realized. Comments, favorable or unfavorable, concerning the personal appearance of a child should be reduced to a minimum; emphasis should always be placed upon desirable behavior rather than upon outstanding appearance. It is the duty of all those concerned with the education of the young child to view the physical in its proper perspective and encourage in the child a healthful, constructive appreciation of his own physical constitution.

MENTAL ABILITY AS A FACTOR OF PERSONALITY

Effect on the child of his mental ability. Children differ in their ability to adjust to their environment. Members of the same family show great variation in this respect. In the early months of infancy, life for the child is a matter of routine. The degree of habituation is closely allied to the maturation

of the nervous system. Very early in the child's life there are beginnings of responses to the behavior of others. This early sensitivity to environmental stimuli places much responsibility upon those who set the stage for the young learner. Parental attitude as expressed in the type of situations to which the child is exposed, together with the adult interpretation of the child's responses, has much influence in developing his ability to adjust to his environment.

Unfavorable comparisons. Since parents (whatever their own intelligence quotient) desire their children to be brighter than all other children, there is a tendency on the part of unwise parents to attempt a forcing of the child's responses to the adult world. More than this, such parents and doting relatives read meanings into a child's accidental behavior. A child, by accident, makes a response that seems to show maturity beyond his years. This is very pleasing to his family, who consequently expect repetitions of this type of response. If, however, the intelligent response is not repeated, the failure to do so is imputed to stubbornness or illness on the part of the child. There then develops either an atmosphere of disapproval or one of foolish fussing about possible symptoms of disorder. To this adult behavior the child is sensitive without in the least understanding what it is all about.

The condition is aggravated if the child in question has an older brother or sister who, because of a more rapidly developing nervous system, was able at his age to make the desired responses more consistently than he has done. Little Audrey is unusually alert for her age. Intelligible speech started early, her vocabulary at 22 months is that of an average forty-month-old child and her ability to understand and follow directions is also excellent. Her little brother Bobby, nine months old, although physically strong and large, is a much slower learner than she was at his age. He is a much more placid baby than she was and will probably develop into a normally intelligent boy. However, his mother is constantly comparing his lack of response at his age not only with Audrey's behavior when

she was nine months old, but even with her present responses. She fears that he is a mentally retarded child. Her anxiety is intensified by the fact that the baby did suffer a slight head injury at birth from which he has apparently completely recovered. The mother is always on the alert for any intelligent behavior on the part of the child, overemphasizing its occurrence, and showing to him her disappointment when he fails to respond adequately to a stimulus. It is still too early to predict the effect of this treatment upon the child's personality, but one may venture the prophecy that during his entire childhood Bobby will suffer by comparison with his more alert sister, unless his mother overcomes her present absorbing interest in quickness of responses.

The bright child. The quick learner has a decided advantage during childhood. He early recognizes the wisdom of adapting himself to the unaccountable demands of his elders; if he is well balanced emotionally, he is able to adjust his mood to theirs. He is able to win approval for feats of memory, such as repeating nursery rhymes, names, numbers, etc. He is able to gain the appreciation of his parents, if not always of visitors, by his ability to perform upon occasion. Studies of bright children¹ demonstrate that they are in no way handicapped in developing a normal and well-balanced adjustment to others in their social group. However, a superior child is in danger of developing an appreciation of himself which may cause him to be unpopular with the less alert members of his own group. Since he is unconscious of the cause of this antagonism, he will know only one way of meeting it, which will be more or less complete withdrawal from the unsatisfying situation into himself or toward those adults who apparently appreciate his behavior.

If his early experiences have encouraged the beginnings of a "shut-in personality" the child's condition is no better when he enters school life. Parental urgings have given him a better

background for regular school tasks than that of his more normal schoolmates; but he may lack the ability to take part successfully in the extracurricular activities of the group, and finding himself outside his age group must seek his satisfaction in winning the approval of the teacher. Thus a vicious circle is started. His success in school work tends to antagonize the group still further and he becomes known as "teacher's pet" or, at best, a member of a very small group of similar children, all of whom are voted queer by the other children. Because of the emotional condition developed, the personality of the child will be seriously affected. His own interests, the ambitions of his parents, and the encouragement of his teacher may result in a mastery of purely academic work that may place him far ahead of his age group and deny him normal social relations, or too much study and lack of physical activity may be too great a strain on his health.

Alice entered high school when she was eleven years old. Her intelligence quotient was 164, the highest in her class. She had been reared from babyhood by an adoring grandmother and mother. The mother was in business, and since business matters were discussed freely in the home Alice had developed an adult point of view. She had attended the elementary school from which her mother had been graduated. There she was well liked by her teachers, was given a great deal of freedom, had a few friends her equal in intelligence, and spent most of her time with her family. However, she was unable to adjust successfully to the high school situation. Physically she was not attractive, as she was too heavy for her height. Her manner was domineering, she found it difficult to follow routine and had little patience with class discussions since they were on an intellectual level below her own. She was frankly critical of all her teachers with the exception of one or two who, recognizing her superior mental ability but undeveloped social adaptability, singled her out for the purpose of adjustment. Her early high school life was most unhappy, and it was only through the wise counsel of some of

the faculty that she was able to start making a more satisfactory social adjustment.

Jane, another child who had much the same background and ability except that as a child she was the source of argument between her mother and grandmother, is also having a difficult time adjusting to a society made up of individuals of average intelligence. Unlike Alice, who took no part in physical activities, Jane is active in water sports. However, ambition has colored her personality so deeply that she cannot tolerate defeat. She finished elementary school when she was scarcely eleven years old. If she is confronted with a situation which she cannot master she leaves it in an emotional tantrum. She will not play simple home games with her younger brother because she is afraid that he may beat her. If she cannot withdraw from a situation of this kind she has been known to cheat in order to win. Unfortunately her parents are encouraging her in this attitude and tend to blame others for any possible failure of their daughter.

The slow child. The problem of the slow child is different but equally serious. As a young child he is exposed to the disapproval of his parents and the scorn of other children. As he matures sufficiently to understand that he is not responding in the desired way, he is at a loss to know what to do about it. Parents of slow children usually recognize the lack in the child but are unwilling to admit it. They are torn between irritation because he is unable to meet their expectations and a desire to protect him from the criticism of others. They "baby" him and emphasize the fact that he is only a child and cannot be expected to have "an old head on young shoulders." If this method is followed, the child often becomes quite dependent and fails to use whatever intelligence he may have.

When the child starts his school life, there seems to develop an abrupt right-about-face on the part of the parents. The mother insists that her child is as bright as any of the others. During his entire school life the struggle continues. In some

cases, the blame is placed squarely upon the shoulders of the teacher; the child is encouraged to accuse the teacher of favoritism; and the parent is a constant visitor at the school in order to complain to or about the teacher. Some parents insist that he take subjects that are too difficult for him and then accuse the child of laziness and lack of interest. Visits to the school are made, in these cases, to gain the cooperation of the school in forcing the child to work harder. Any suggestion on the part of the teacher that the child is doing the best he can and that he should not be pushed ahead is looked upon as an insult. Plans are often made by these parents for the continuance of the child's "education" in an academic high school. The father threatens that if the child will not study, he must go to work. However, compulsory education laws prevent that. The results are inevitable. The child soon becomes a past master of the art of deceit. Report cards are falsified, cheating techniques are perfected, and with the failure of these methods truancy develops. Although running away from home may be explained as a natural "wanderlust," it has been found that the number of such cases is very small among children who are well adjusted in their school life.

Deviates compared with normal children. The foregoing discussion might seem to lead to the conclusion that to be a well-adjusted personality one should have average intelligence, and that there is grave danger if one is a deviate from the norm. This is not necessarily true, yet this is a world of average people, and social customs and mores are for the great part adjusted to the needs and understanding of the average mentality of the group. The further away an individual is from the mental norm of his group, the more difficult is an adjustment of personality to it. Our problem here is not concerned with those who are classed as definitely subnormal. Society is recognizing its responsibility for these individuals and is slowly but surely working toward protecting the existing mentally unfit and lessening their number. The difficulties of adjustment lie in the group with I.Q.s between seventy and

ninety and those whose I.Q. exceeds 110. However, society needs what both these groups have to offer, if the individuals comprising them can be adjusted to desirable social attitudes.

Parents of normally intelligent children, if they themselves are normally intelligent, have relatively little to worry them. They will have the satisfaction of seeing their children perform at least as well as the majority. Although their ambitions may be thwarted because the child cannot quite meet their ideal, at least, except in unusual instances, there will be no serious disappointments. Teachers know how comforting a good average student is. Usually he may be relied upon to do his work conscientiously and without fuss. He runs with the group and seems to be fairly well adjusted. Parents do not need to be called into consultation except for friendly discussions of future plans.

Mental hygiene for bright children. Perhaps the most difficult problem of adjustment is that of children who have very superior intelligence. The number of these is relatively small, and they are widely scattered throughout the community. Their ability to grasp the significance of situations more quickly than those around them tends to develop emotional disturbances both in themselves and in others of their group. These in turn may lead to jealousies, lack of mutual understanding, and friction. Terman¹ summarizes his findings concerning geniuses as follows:

Appearing usually in superior families (and the more usually so when educational and other early environmental inequality persists) young geniuses are found to display in childhood superior intelligence, superior talents, and superior traits of character. The converse has not been definitely demonstrated, but the appearance in childhood of a combination of the highest degree of general ability, special talent, seriousness of purpose, and indomitable persistence may well be greeted as indicating a capacity for adult achievement of the highest rank. The child is father of the man: the gifted youth will be the leader of the future.

¹ L. M. Terman, *op. cit.*, 2, p. 219.

Heredity sets limits, but within these limits the adequate training of the most gifted—and so also of their less distinguished fellows—may raise them to the designed stature of men unmarred by the defects of insufficient experience, and thus realize in each one the complete development of inborn worth.

The parents' responsibility toward a bright child is great. He has here a potential leader, one who will, directly or indirectly, for good or for ill, influence other members of his group. The first aim of such a parent should be to provide an environment for the child that is in every way normal. Later this child will need to live a normal life in a normal world. Therefore he should begin to develop in such a world. His delicate nervous system should not be unduly taxed. His diet, sleeping hours, and exercise need very careful watching and should be thoroughly routinized. Because of his own maturing activity, if left to himself, he may tend to overdo. Therefore, his physical well-being should be of first consideration. He should not be discouraged in his early efforts toward responses beyond his chronological age, but he should not be pushed, nor should his activities be made a form of entertainment for guests. As far as is possible, differences between his mode of reaction and those of less alert children should be minimized. If the child himself appears to be aware of these differences and seems puzzled by them, he should not have engendered in him a feeling of superiority but merely be made to understand that there are differences among people and that we cannot all be alike. His superior mentality should be made the basis of his behavior training in that he should have explained to him more fully than is possible with less able children the reason for the desirability of certain modes of behavior rather than of others. Pride in desirable behavior based upon understanding of it should be developed in the child without criticism of those children who are unable to understand fully why such behavior is desirable. He should be given an opportunity to associate with children of his own ability, as well as with slower children, so that he may learn

group cooperation. This is very important and should begin early in life.

Donald was the bright son of ambitious parents. His father's work took him to China, where Donald spent most of his childhood and early school life. His school was very exclusive and his companions were hand-picked. When he returned to America and entered a New York public school, he had had an unusual background both of experience and culture, yet he was very uncomfortable with his own age group. This persisted through his high school course. He became apathetic, listless, and antisocial. To a psychologist to whom he was brought for an interview, the boy admitted that he disliked people, as no one seemed to understand him or care about him. He admitted that the only ones he could get along with were children much younger than himself and very old people. His parents had attributed this characteristic to his good breeding and courtesy. As a matter of fact, with these two groups he could be himself; he did not have to keep on the protective armor of superiority.

The bright child at school. The bright child should not be overstimulated in his school life. There is no great glory in being graduated two years ahead of time. It is better for him to be with young people nearer his own age and at the same time have a more enriched curriculum in his proper grade. Some children are emotionally mature as well as mentally accelerated. For them, the rate of progress may be decided by consultation of parents, school authorities, and the child himself. Care should be taken that this type of child does not become interested in so many kinds of activity that he has difficulty in carrying any one form to the stage of expertness. Too many bright people have flitted from one interest to another because of their inability to persist in any one field. Such children may easily develop into charming dilettantes, unable to do anything well enough to earn a living at it. Bright children should be given plenty of opportunity to discover their interests, but guidance should help them to

determine what is to be their ultimate vocation, allowing the others to fall into the category of avocations or hobbies. This is desirable for the best development of personality, even though later one of these avocations may become a life work.

Mental hygiene for the slow child. The less able child needs a little different treatment. The fact that he is slower than the average must be accepted by the parents, and any ambitions which they may have requiring superior mental ability must be dismissed from their thinking. A slow child is not necessarily a drag on society. There are many occupational opportunities for an individual who is careful, accurate, and interested in routine activities. In fact, such types of work are more successfully accomplished by a slow thinker than by one who is more alert. From babyhood, attention should be given by the parents to the development of traits which would compensate for the slower mentality. Parents and others who are responsible for the education of the slower child need to bear in mind that, although mental alertness is a powerful factor in personality, it is not necessarily the chief factor in attaining social success and that often the happiest and best adjusted members of society are among the mentally less able.

III EMOTIONS AS A FACTOR OF PERSONALITY

Place of emotions. The young child responds to certain exciting stimuli with responses which show evidence of emotional behavior. Early in life these responses are vague and cannot easily be classified as overt signs of any definite emotional or stirred-up state of the organism. However, such responses even in their early indefinite form are powerful drives in molding behavior responses of an individual. We are so much creatures of impulse that many of us need a lifetime of hard knocks before we are able to develop even slight intellectual control of our actions. Those of us who have trained ourselves to a fair degree of reasonable rather than of impulsive behavior find that our ordinary habits break down under the pressure of unusual stimulation.

The study of glandular behavior has not yet advanced to that point prophesied by semiscientific writers, when it will be possible to control the glandular balance of an individual to the point of producing at will an entirely stable person. However, if the child's glands are normal and healthy we may expect them to function properly, and it is our duty to provide an environment in which the behavior resulting from their activity will be such that the individual will possess a strong virile personality rather than a warped conflict-ridden complex of reactions. It is a generally accepted fact that the emotions are the foundation upon which are built histories of great achievement as well as pitiful stories of wretched failures. Physical constitution and mental ability are but concomitant factors which contribute to these constructive or destructive functionings of the emotional forces.

Early emotional responses. The infant's emotional drives direct his responses to their proper stimulation. The feeding, petting, and general care of his bodily needs given him by his mother or nurse elicit from him satisfied cooings, gurgles, and approaches such as snuggling, and, later, extending of the arms, body, etc. Cries and movement of limbs are his responses to restraint or thwarting. Shrinking and other bodily movements are brought about by such stimulants as sudden noises. From these beginnings may develop a multitude of behavior responses which may be either desirable or undesirable from the point of view of the development of personality. Care, attention, and physical well-being are satisfying to children and they learn to respond freely to those who provide these. They are also sensitive to any lack of attention on the part of others. The aim of a child's life is the satisfaction of physical and immediate wants, and the adult who supplies these is the object of the child's interest and attention. If the adult fails in meeting these wants the outgoing love response may quickly change to a passive retreating or a more active bodily display of anger.

Mary was her aunt's favorite niece. The aunt was a frequent

visitor at the home of Mary's parents and was always the bearer of candy, toys, etc. for the child. For this reason this aunt was also Mary's favorite relative. The mother remonstrated with her sister for "spoiling" the girl, but the aunt made light of these comments until she realized that Mary's effusive greetings were combined with eager glances to see what had been brought for her. Upon one occasion the aunt came empty-handed. When Mary realized that there was no present for her she ignored her aunt, repulsed the usual friendly overtures, and finally pommelled her aunt with both her little fists, crying "Bad Aunt, Mary hates you!"

Thus in the young child's life love and anger are closely allied, and their expression is impulsive and the outgrowth of immediate satisfactions or thwartings. The normal child may go quickly from a state of love behavior to that of rage or *vice versa*. His memory is short, and a new stimulation will divert his attention and bring about an entire emotional change. •

One of the earliest causes of the show of fear response in an infant is a loud noise or an unexpected sensation of being without support. The element of unexpectedness in the environment, upsetting the baby's accustomed calm, will result in the characteristic responses of crying, shrinking, trembling, etc. As the child grows older this early association is attached to any situation which is strange, or which seems to lack the protective factor of his usual environment. In the beginning a scolding is feared not because of the meaning of the words used, but because of the unaccustomed pitch or quality of the voice. Any changed behavior reaction on the part of an adult is "feared" by the child.

Little Jack started to finger food. His mother took the offending hand, slapped it very gently, and looked at him without her accustomed smile. Jack felt no pain. During play periods, the mother had touched his hand in the same way, but this time the physical action was accompanied by a different facial expression. The combination was not satisfying

and was associated with the fingering of the food. The incident was forgotten and the food fingered again. Repetitions of the parent's response finally set up a definite association pattern that caused Jack to keep his fingers out of the food because he was "afraid" of an unsatisfactory result.

Fears may be developed as a result of unexpected happenings which have no apparent basis. Frances loved dogs and kittens. Her parents encouraged her to pet animals that they knew to be gentle. One day while visiting friends with her parents she strayed out of the house and was thrown down by a playful puppy, who continued to jump around her and bark shrilly until she was rescued. After this experience, her response to all moving animals, even those with which she had previously played, was a complete fear hysteria. She was led gradually to overcome this active aversion but as a grown woman she admitted that upon the sudden sight of an active dog she had to fight an impulse to scream or run away.

The development of the child's attitudes. The child's understanding of himself as an individual, of his relation to his parents, his sisters and brothers, and his friends, is built upon an emotional basis. He cannot give a clear-cut logical reason for his attitudes towards others. He "feels" a certain way about them, mainly because of their behavior toward him, but he does not analyze this emotional urge toward or away from. To one child, God is an old man with a great white beard who lives up in heaven and who will protect him and give him what he wants when he is good or who will punish him when he is naughty. The child likes one picture or musical selection and dislikes another, but he cannot explain his reason for doing so. With proper training, he can recognize that one type of behavior is right and another wrong, although he is not always certain, since peculiar things happen sometimes when he is doing what he feels is right.

We must realize that the child's aesthetic, social, religious, and moral experiences are outgrowths of his emotional de-

velopment and are closely linked with his own appreciations of satisfaction and annoyance.

Mental hygiene of emotions. Parents need great patience and wisdom in dealing with the emotional life of a child. The basic factors underlying the satisfying and unsatisfying elements of a child's life and his consequent emotional states must be understood and treated sanely and objectively. It is not always easy to discover the causes of a child's response to a situation, but there are certain principles which if followed will help to develop at least the beginnings of a stable emotional personality.

The physical and mental factors of personality have their effect upon the child's emotional nature. A sickly delicate child is usually more sensitive to emotion-arousing stimuli. Not only is he more likely to be protected by adults so that he becomes dependent upon others and cannot withstand unsatisfying conditions, but his own physical weakness makes him less able to adapt to a changing environment. Hence, unless great care is exercised, he will tend to become fretful, easily frightened, and given to temper tantrums. Such children should of course be well cared for, but not fussed over. If the adult is reasonably certain that this child is free from pain, he should be left to himself exactly as a normal child would be.

„A child who has superior intelligence needs stimulation commensurate with his mental ability. However, he should not be overstimulated. Care must be taken that he does not engage in activities which are beyond his physical maturity. As far as possible, he should be encouraged to take part in normal child activities and should have plenty of opportunity for contact with other children of his own age. He should not be allowed to find his satisfaction in purely mental activities. Since such a child is likely to be sensitive and imaginative, care should be taken that emotion-arousing elements in his environment be clearly and objectively explained to him.

Less able children must be protected from emotional upsets

due to their own lack of ability to meet normal stimulation. They should be given opportunities to achieve success in situations suited to their limitations.

For all children, objective well-controlled behavior on the part of adults will do much to train young people to similar control.

SPECIAL INTERESTS AND ABILITIES

Effect of parental interests. As a rule, parents begin early to plan for the future careers of their children. Sometimes the career chosen is one which the parent himself had hoped to follow but for one reason or another had failed to achieve. Sometime the parent expects the child to follow his (the parent's) career. It may be that he himself had planned otherwise, but the oldest son of the Maitlands had always gone into medicine, so he had to do so. Now, forgetting his own objections as a boy, the father is already planning during his boy's babyhood that the family tradition shall be continued. If the child is a girl, the mother decides that her daughter shall give her the opportunity to enjoy vicariously the career which she herself was prevented from entering, or, all the Clayton girls have been school teachers, so Janet will probably follow in their footsteps. Women often go to great lengths in order to develop in their children abilities which they (the mothers) wish to have developed. A story is told about an expectant mother whose one ambition was to have her child become a great musician. In order to have this ambition assured, she practiced on the piano daily for many hours although she herself had no musical talent and found this daily practicing a most unpleasant chore. Her discovery later that her daughter possessed no musical ability but a degree of persistence equal to her own was a great disappointment.

Other parents have no preconceived ideas of what the child's life work should be but are constantly looking for "signs" of developing interest. They decide that because the child shows a special interest in flowers he will be a great

botanist. A child's desire to thump with both hands on the piano means the beginning of a musical career. Taking a watch apart to see what makes it go is complete evidence of mechanical genius. In some instances it is no more than the height of the baby's forehead, or the formation of his ears or hands, that leads parents to dreams of greatness.

No matter what form these parental ambitions take, if they are definite and expressed they are certain either to stimulate in the child dreams of a future which may be kept from materializing by his special abilities and opportunities or lack of them, or to arouse in him an increasing resentment against his family because their wishes are in opposition to his own growing interests.

John as a child showed some ability to play the violin, but was also interested in shopwork at school. His teacher of music, who, although not consciously dishonest, had in John a good source of income, encouraged his parents, who were in moderate financial circumstances but were making great sacrifices to allow him to study the violin. John wanted to elect a mechanical course when he entered high school. However, he was discouraged from this because he might injure his hands in the machinery. He developed an antagonistic attitude toward the family, and although he went to his "lessons" regularly and practiced daily, he refused to "perform" for friends or visitors at the home. He gradually joined a group of boys who played popular music and, against adult protests, started a jazz orchestra. He is now a high school graduate, has been refused by the good schools of music, and is earning a more or less precarious livelihood with his orchestra. His manner is sullen and antisocial. Has a good mechanic been lost in a poor musician because of parental ambition?

Children's developing vocational interests. Children too dream about their future. An admired adult is a lawyer; the child wants to be a lawyer. A small town girl went to Hollywood and made good; the child is going to be a great actress. Policemen are wonderful men; one has to do what

they say and they wear brass buttons; so the ideal vocation is that of policeman. Nurses wear attractive uniforms and marry millionaire patients or rising young doctors, so the girls want to be nurses. All children go through these stages of hero worship or romantic dreams. If the child is living a normal life with plenty of activity, these dreams come and go to be superseded by others. If a careful study of the child's real abilities and opportunities is made and followed, these many interests may crystallize into a safe and suitable choice. If the child's interests are not controlled, he may attempt to enter a vocation for which he is entirely unsuited and do nothing constructive with his life, or he may flit from one interest to another and, as an adult, be unprepared for any definite field. In either case, the child's personality will suffer from the lack of opportunity to achieve success in work suited to his abilities.

Since the proper development of an individual's special aptitudes is so important to the growth of well-balanced adjustment, parents and teachers need to give careful attention to the discovery and training of these abilities.

Desirable development of specific aptitudes. Although it is doubtful that the explicit expression in expert performance in any field is inherited, it is probable that unusual achievement has its roots in inherited tendencies. The gifted musician, artist, or writer, or the successful mathematician, statesman, teacher, doctor, or parent is both born and made. There are potential factors, physical, mental, and emotional, which if developed in a propitious environment will cause an individual to be successful in a selected field, provided the requirements of that particular type of activity follow the possibilities of his inherent capabilities and developed interests. A psychologist was accustomed to say to his classes that a man might have an alert mind, might have mastered all the rules, and might have a great interest in the work, but if he had a wooden leg he could never be a successful fireman! In this case, the wooden leg is an obvious barrier, but there are other limita-

tions, not so easily recognized but equally important, which must be considered as early as possible in planning a career.

Parents' responsibility. It is natural for a parent to give thought to the child's future, but a wise parent will delay any specific choice until the child is old enough to plan for himself with the aid of scientific measures of aptitudes. There are ways in which parents may lay the groundwork for this decision. First, they may frankly analyze themselves, their own potentialities and abilities and the history of their own families. If a girl who has straight hair wants her daughter to have curly hair she will need to marry a curly-haired man, and even then the daughter may inherit hair as straight as her mother's. In the same way, if one has vocational dreams for one's unborn child, the potentialities for which he himself does not possess, he will need to choose a mate who possesses them, and even these may not develop in the next generation.

Nothing can be predicted with certainty about a newborn infant, but a carefully planned environment in which the child may develop interests naturally, without too much prodding or a surfeit of one particular kind of stimulation, is likely to develop desirable interests in the growing child. The emotional reactions of the child are closely linked with these interests. A child's interest cannot be forced, on the other hand, it may develop without any conscious fostering effort on the part of the adult. The pride resulting from the accomplishment of a worth-while job is one of the best means of assuring for a person a desirable attitude toward his group. The person who is prepared to perform a task which is socially desirable and of value to him self has no time for resentments, jealousies, fears, etc., that may warp his personality. Idleness or the sense of futility in one's work are often the forerunners of maladjusted behavior.

Development of pride in achievement. During childhood the individual should be encouraged to assume responsibilities which are suited to his age and ability. The boy on a farm

who has his own calf to care for, the girl who has certain simple household tasks which are her own responsibility, the child who is fortunate enough to be a pupil in a school where a sane activity program is in progress have a much better chance to develop a wholesome personality than has the young person whose one object in life is to amuse himself or the one who, if he is doing something constructive, must follow minute directions of an adult who becomes impatient if the youngster makes a mistake or seems awkward in carrying out these details without understanding the purpose or the end result of the activity.

Parents and teachers, then, need to give children responsibilities with freedom of performance, being careful that the duties are thoroughly understood and that proper approval is accorded to successful achievement. At the same time, attention on the part of the adults should be directed toward those types of activities in which the child appears to have the keenest interest and for which he shows the greatest aptitude. This careful observation, combined with tests of intelligence, aptitude, and interest, should enable parents and children to decide together, in the light of existing occupational opportunities, upon the vocation which seems the most promising.

Much of the maladjustment of personality which is too common at present could be avoided if parents and teachers were more careful in helping children to develop whatever abilities they possess instead of superimposing adult desires and aims upon their maturing interests.

PERSONALITY AND THE ENVIRONMENT

Any discussion of the development of personality must include reference to the environmental factors in which the personality matures. Consequently, much has already been said about these environmental factors. However, there are subtle elements in the child's world which affect the child but are overlooked by the adult. Kurt Lewin gives us the following explanation of these effects:

The same factors that are critical for the momentary situation are also characteristic of the *total milieu* of the child over longer periods of his life. Their effects upon the development of the child's personality and his whole behavior are similar to the effects of the forces described in the momentary situation upon his momentary behavior. Particular features of the environment are usually less important than its total character in determining its effect upon development and, more particularly, upon the rate and mode of differentiation of the child's personality. Overly harsh or severe surroundings may lead to the child's encapsulating or insulating himself from the environment. The child becomes stubborn and negativistic. Optimal environmental conditions, for example, optimal tension level, vary considerably with different individuals. It is a well-known fact that infants and young children who grow up in an institution generally show a slower development in many respects than children who grow up in a family.

It is already clear from the circumstances just discussed what great significance a change of environment may have for the child's development. The so-called difficulties of training are not infrequently related to the particular requirements of the parents, to their characters, and to the way they get along together. These difficulties disappear as soon as the child has been for some time in a suitable environment. To be sure, the difficulties usually begin all over again after a return to the old environment. . . .¹

Up to now we have been describing the effects of the present situation upon development. These effects cease with a change in the situation. Nevertheless, the operation of the environment always produces, as a consequence, a more or less marked change in the individual himself, and thus changes his basis of reaction to all later situations. This influence of the present situation upon future possibilities of conduct, which is particularly significant to development as a process considerably extended in time, is due not only to the child's acquisition of certain intellectual experiences but, above all, to the fact that his whole person is changed in certain specific ways. . . .

Quite analogous cumulative series due to this vicious circle may be seen in psychopathic children or in other children that have difficulties in social groups. The overexcitable or socially disagreeable child is not only less competent in his social situation, and thus makes his task harder, but also the other children reject him, drive

him to a defensive attitude, etc. The child soon gets himself into a social situation, originating perhaps in some quite trivial conflicts, that would tax the capacities of a child of high social endowment. Similar developments of a circular causal relationship between capacity and environment are basic, for example, to stammering.¹ Conversely, not the least advantage of the gifted child consists in the especially favorable environmental conditions that he usually creates for the future.²

Environment and physical development. Opportunities for physical development are often lacking, especially in large cities. The apartment-house child is a pitiable object. If he does not have a playroom, he must always be careful of the furniture. These apartments are usually overfurnished, so that any attempts at activity will result in bumps and falls. He may not run or jump in the apartment because the people downstairs will complain. His life in the city street is little better. He must look out for automobiles; he must not block doorways or interfere in any way with the traffic. A broken window is a major offense. Because of the value of land, playgrounds are few and far between and the child is tired before he reaches one. Again, because of city hazards, a child may not play in an unsupervised playground, and it is not always possible for a community to afford enough playground directors. City schools do not have sufficient space for free activity, hence all such activity must be carefully controlled, and a child's natural urges may be so curbed that he develops a sense of thwarting and restraint from which he longs to escape.

Effect of environment upon mental and emotional development. The constant rush of traffic, the speed at which we live, the ever-present radio, long automobile trips interfering with normal routine all place too great a strain on the child's nervous system. The alert child is overstimulated. He

attempts to fit into the pattern and becomes a highly strung nervous individual, given to hurried judgments, half-understood truths, and a woeful lack of concentration. A child who has to work on an arithmetic assignment to the tune of the radio or to heated discussions of economic, labor, and social problems is unable to achieve any satisfactory degree of logical or persistent mental effort and will develop the habit of responding to the most exciting elements of his immediate environment, and thus idle away his time in inconsequential and nonconstructive activities. Teachers are constantly complaining that the children of today do not know how to study and do not want to study as the teachers themselves did when they were young. The fault is not the children's but in the environment in which we force them to live.

Parents tend to contradict themselves in their attitudes toward their children. They desire their children to meet situations on an adult level and yet upon occasions when the parents stage emotional scenes of their own, they expect their children neither to understand nor to respond. Parents often associate fear responses with desirable social agencies or develop fear of places or things that later cause emotional difficulties for a child. Threatening such punishments as closing a child in a dark closet or telling a policeman of his naughtiness may be the beginnings of phobias in the child that may affect his personality for the remainder of his life.

The hygienic environment for a maturing child. The most desirable environment for a very young child is that which affords him clean, quiet, well-regulated routine. His times of sleeping and of eating should be fixed. All excitement, undue noise, or breaking of routine should be avoided. There should be little or no fondling or handling of the infant except for purposes of caring for his physical comfort.

As the child grows older, the routine may be gradually relaxed, but his sleeping, eating, exercise, play, etc., should still follow a time schedule. He should not be allowed to deviate

from this routine one day, and then be punished if he wishes to do so at another time. The child's conception of "right" and "wrong" develops gradually, but adults must not take it for granted that the child is able to have an adult understanding of the environment in which he lives. New crises in the child's life need preparation before they occur. The first day at school may be a tragedy unless parents have prepared the child to look forward to his entrance into this alien environment as a reward for growing up. The sooner the child can be weaned from complete dependence upon the mother and the home environment the better for him. Nursery schools are desirable means of enlarging the child's horizon; so are play groups of his own age and kind. It is in this respect that children who live in the suburbs or in rural areas which are not too completely isolated have an advantage over city children. They may in truth "express" themselves in free activity which is indirectly controlled by adults.

During the child's school life, he develops best when he has certain routine tasks, with appropriate reward for success in them. Combined with these should be periods of play and socialization with his fellows. Thus he will learn how to assume responsibility for duty and so order his behavior that he may live peaceably with others.

The school child should have a relatively quiet place in the home for study, and regular study periods. A plan which is gaining favor among educators is that of having all the schoolwork, in the elementary school at least, completed during school hours, so that the remainder of the day may be devoted to home duties and family and social activities. Children in pre-adolescent years should not be included in discussions of family problems, except in so far as they need to understand that family finances will not allow them to have unnecessary luxuries.

A cheerful, well-regulated environment is an absolute necessity for the development of a wholesome, well-adjusted personality.

PERSONALITY DIFFICULTIES OF CHILDHOOD

A child below the age of twelve rarely shows definite mental illness. However, certain ineffective adjustments need to be discovered and treated in order to avoid later difficulties. Some of these will be referred to briefly.

Attention getting may take many forms, from the crying of the young child to the flaunting, overloud, or aggressive behavior of the older children. Parents need to watch their rather normal tendency to encourage such demonstrations. Any behavior which seems to have attention getting for its purpose should be quietly ignored.

Enuresis is often found in young children. This may result from faulty training and emotional maladjustment. Medical advice should be sought. The child should not be made to feel that the habit is "wicked." If there is no physical basis for the habit, the emotional tension should be relieved by the encouragement of healthful play. According to Teagarden,

Where a child has not established dry habits by three or four years of age, it is common to take him to the physician for an examination in order to determine whether there may be any structural or organic defect. Kanner says his experience shows that there is no such defect in about 68 per cent of the cases which he has seen. More often the trouble is that proper training has never been instituted and there is no expectation of success on the part of parent or child.

At any age, incontinence of either bowel or bladder may be the result of wrong relationships between child and adult. This is so true that young children will sometimes have incontinence with one adult in one home and not with another adult or in another home. Incontinence may be the result of negativism or of a desire to punish an adult who is not understanding. The cure in such cases lies, of course, in the removal of the cause plus encouragement for right doing.¹

Rationalization, negativism, and compensation are products of a child's lack of security if he feels that he is not meet-

ing with the approval of adults. A child fails to do what is expected of him, and rationalizes the situation, placing the blame on the disapproving adult or upon some other object in the environment. If the child is unable to succeed in one form of behavior, he will attempt to compensate for it by excelling, or trying to, in another form. The unpopular child in school may steal money in order to be a lavish giver. If his school-work is unsatisfactory, he will attempt to gain attention by stories of his prowess in other fields or of the exploits of his family. A child may be interfered with in an activity. He is unable to make an adequate adjustment promptly, so he adopts a negativistic attitude—becomes stubborn, sometimes violently emotional, and refuses to respond. These forms of maladjustment are best prevented or cured by giving the child plenty of opportunities to engage in activities in which he will be able to achieve success.

Daydreaming. The “dreamy” child is the despair of many parents and teachers. He seems to surround himself with a world of his own. The adult’s world is too difficult for him to master, so he creates his own of which he is usually the “hero” who will be appreciated by his family when he is dead or has won fame. A little of this is not bad, if the child can make his adjustments to a real world when necessary.

Imaginary illness is for the child another method of escape from the harsh demands of his life. Early morning sickness may be very severe until it is too late to go to school, when a miraculous recovery is noted. Headaches and other pains are common means of attention getting or of being excused from a task which the child cannot or will not perform. The child who lives in a well-adjusted environment seldom shows symptoms of this disorder.

“Nervousness” and anxiety. Most serious of these adjustment difficulties is that “jumpy,” “jittery” fearfulness which is due to the child’s consciousness of a lack of stability in his environment. The wheels of the home or of the school life do not revolve smoothly and he can do nothing about the

situation except to live in a constant state of fear of impending doom. The cause of this fear must be discovered and removed.

At least one of these forms of maladjustment may show itself at some time in every child's life, but their expression will not be serious or lasting if the environment is quiet, orderly, and free of emotional conflict, and if the adult control is firm but kindly, allowing reasonable freedom for desirable self-expression.

MEASUREMENT OF PERSONALITY

Existing personality-rating scales are not well adapted for administration to young children, since reading comprehension is needed for adequate response. However, such testing material as Hill's "Test in Civic Attitudes" (Public School Publishing Co.), Woodworth and Mathew's "Personal Data Sheet" (H. C. Stoelting Co.), Tomlin's "Best Thing to Do" (Stanford University Press), Freyd's "Occupational Interest Blank" (H. C. Stoelting), and similar scales may be used in conjunction with information gained from personal study of the child's family, environment, etc., in gathering data which may throw light upon the factors which have influenced the development of an existing total of personality.

Such a study has been made by Dr. Alice Crow of the personality factors of a hundred New York City children between the ages of seven and twelve. The results of the study are based upon the following:

- I. The administration of:
 1. An intelligence test.
 2. Hill: Test in Civic Attitude.
 3. Woodworth and Mathews: Personal Data Sheet.
 4. Tomlin: Best Thing to Do.
 5. Baker: Telling What I Do.
 6. Strang: Social Usage.
 7. Brainard: Specific Interest Inventory.
 8. Freyd: Occupational Interest Blank.
 9. Pressy XO Form B (with older children).
 10. Sims: Score Card for Socio-Economic Status.

- II. Health History.
- III. Record of School Achievement.
- IV. Family History.
- V. Interviews with teachers, parents, and children.

A brief summary of her findings follows:

1. The children studied ranged in intelligence from 76 I.Q. to 179 I.Q. Other factors being equal, the brighter children showed better social and school adjustment than did the slower children.
2. Physical disability did not in itself necessarily cause personality maladjustments.
3. The social and economic condition of the family was not necessarily a factor in maladjustment if other conditions were favorable.
4. The fact that a child was an only child, or a twin, or that he was the oldest or the youngest member of his family did not affect his personality unless combined with other undesirable environmental factors.
5. Nationality or educational background alone did not have significant influence upon personality.
6. In general, children between these ages showed only slightly significant vocational determination. Their interests were the result of other factors in their life, such as success in a specific subject in school, desire to improve upon the present economic status of the parent, or admiration of an adult.

The study seems to indicate that, since personality is an expression of the whole individual any one factor is significant only in its relationship to other qualities. A characteristic which in one combination of factors may produce a socially undesirable individual may under other influences combine with other traits in the formation of a well-integrated personality. The student of personality must avoid hasty generalizations concerning the inevitable power of any one of the factors, such as economic status, place in family, mental alertness, etc., to divert the development of personality into a certain definite mold.

Some of the cases studied showed excellent adjustment, sometimes in unfavorable conditions. In many instances, one

trait seemed to dominate under a strong environmental influence. Whenever it was possible to eliminate or improve this undesirable factor, a better personality adjustment was effected. A few illustrations are given.

John K., age nine, I.Q. 149, Grade 4B, is an excellent student and wishes to be an engineer. The family is poor, and he has always been a delicate child. The two latter factors have excluded him from many normal activities. He is a docile, well-behaved child, but he developed a fear that his health and the lack of money in the family might interfere with his ambitions. The family are encouraging him in his studies and are watching his health carefully.

Milton B., age nine, I.Q. 123, Grade 4A, does good work at school but only when driven to do so; he is aggressive and has little respect for his elders. His father is a truck driver. The boy is generally obedient, not because he feels he should be but because he is afraid of punishment. He does not know what he will do when he grows up but insists that his work will be something that will give him a position superior to his father's. The father has agreed to be less "rough" with the boy.

An example of excellent adjustment is shown in the case of little Florence K., age eight, I.Q. 145, Grade 2B. She has a little brother two years old, of whom she is very fond. The home conditions are very good, her health is excellent, and she is making a fine adjustment to school and playmates. Her parents do not believe in too rapid progress in school but are stressing interest in simple experiences.

An entirely different picture is presented in the case of Lawrence T., age eleven, I.Q. 115, Grade 7, good school work; the older of two boys. The family have moderate means. The grandfather, who lives with them and teaches both boys Hebrew, always has a word of praise for the younger boy (five years old) and speaks of his virtues to everyone. The older boy is aware of this, clashes with his grandfather, and is very assertive when speaking to him. He is becoming in-

creasingly stubborn in his relations with others. The parents are aware of the conflict but seem unable to meet the situation without disturbing the emotional balance of the entire family.

John L., age eight, I.Q. 84, Grade 4, is the child of parents who have separated; he lives with his mother. John is unsocial but thinks that everyone likes him and is known among the children as a "show-off." The mother is on the offensive if he is criticized and blames everyone else for his lack of success in school and with other children.

Robert S., age ten, I.Q. 128, Grade 4, has one half-brother, sixteen years old, two sisters nine and three years of age, and a baby brother two months old. Robert is much bothered by the fact that there is a lack of money in the house, he sleeps with his half-brother — uncomfortable bed and noisy street. He dreams of robbers, fire, the police, and his lessons (especially arithmetic, his poorest subject). When asked how he likes his baby brother, his answer was, "We haven't got enough money now. I don't know what they wanted him for."

An unfortunate case of mother domination is shown in the situation of Lilvan O., age ten, I.Q. 110, Grade 5A, younger sister, economic status high. Lilvan is made to follow minutely the tastes and wishes of her mother, who dominates the entire family. Lilvan has learned that it does not pay to assert herself in fulfilling her own wishes because her mother becomes terribly upset, and the family becomes unhappy. When her mother is not present, the child is very willful. An instance of this attitude is shown in the following quotation from a report of her music teacher: "One day the mother left during the child's music lesson. As soon as Mrs. O. was out of the house, Lilvan refused to play what I put before her and said, 'I hate this Minuet. I always have to do things I don't want to. I won't play it.' This behavior was very different from her usual submissiveness. I told her that her lesson was over and asked her to send her younger sister in for her lesson. Lilvan looked uncomfortable but obeyed. The sister's lesson

proceeded, and soon Lilyan returned to the room, sat down in a chair directly in the line of my vision, and started to whimper. These whimpers grew into sobs and from sobs into hysterical crying. I spoke to her, but she would not answer. I sent Ruth from the room and asked her why she was crying. She commenced to howl, 'I don't ever want to play that Minuet but if mother finds out that I refused to play it, she will make me stop taking lessons. I've begged mother to ask you for another piece instead but she won't even listen to me. I always have to do what she thinks is best. I never can do the things I think are best. Please let me finish the lesson because mother will be upset and we'll all be unhappy.' "

Mrs. O. feels that she is a pal to her children, she plays with them, sings, dances with them; they cooperate in preparing meals, shopping, etc.; yet the relation is a tense one. Even during play or in jest, they must be on their best behavior lest they be reprimanded by their well-meaning (?) parent. She may call them "dopey" in jest, but the children may not retort in the same vein of humor. They have many educational toys with which they must play even though they may not want to. They have fine clothes, a beautiful home, and many luxuries; the children's friends are very carefully chosen, but the mother assures everyone that they are very democratic. Mrs. O. was a registered nurse before marriage; therefore Lilyan is certain that she wants to be a registered nurse and *nothing else!* Lilyan is taught to give generously to gain friends—and these friends dare not refuse her gifts. The girls have been told many times that teachers are "crackpots or old maids." The mother has made the following statement in the presence of the children, "I'd rather have my children be chambermaids than teachers. All the teachers I know are supporting lazy husbands and are sour and grouchy because of their home conditions. They come into the classroom and vent their personal feelings on innocent youngsters." As long as Lilyan lives in this environment, the chances of her developing a well-balanced personality are very slight.

The conclusions of the foregoing study are borne out by Murphy, Murphy, and Newcomb, who write:

As an illustration of the futility of attempting to get psychological insight from the study of social factors that are not given in psychological terms, we may refer to the multitude of studies of the child's "position in the family" as determined by his birth order. His psychological position in the family is of the utmost importance for the development of social behavior, but "psychological position" is by no means completely dependent on birth order. . . . The question whether the child feels accepted and loved; his emotional relation with his parents; the competition or support which brothers and sisters bring to him; and the specific pressures or areas of freedom and stimulus that come along with one position in the family or another are probably more important than the objective fact of ordinal position.

A more fruitful procedure than sheer comparison of children in terms of birth order is suggested by a number of studies which have been analyzing the relation between parent attitudes and children's behavior. From several sources we find hyperactivity in children associated with attitudes of rejection on the part of the mothers; from another source we find children with mothers who tend to be "over-protective," as well as those with "constructive" mothers, more happily adjusted than children whose mothers are domineering or hostile. Tentative results from another study suggest that "shy" and "well-adjusted" mothers tend to have happier children than "dominating" mothers.¹

Since traits do not develop in isolation from one another, any attempt at measurement of trait development must take into account the interaction of traits in relation to the child's physical and social environment. We could well conclude this discussion with a quotation from Lois B. Murphy:

The understanding of any behavior in relation to the whole personality, then, depends upon an understanding of the child's status, as far as general outgoing social responses is concerned, then the range of behavior which he shows in different situations, dominant trends and dynamics of variation within the range. It may be repeated here that probably the range of behavior, dominant trends,

¹ G. and L. B. Murphy and T. M. Newcomb, *op. cit.*, pp. 362-364, by permission of Harper & Brothers, New York.

and particular forms of variation shown by a given child depend upon the influences from both his immediate and his general cultural setting, interacting with the constitutional characteristics he himself brings to his culture.

Prediction of a child's behavior in a new situation would depend upon accurate analysis of this situation, in relation to his own range of possibilities and dynamics of response to variations in his subjective relation to situations, or their value for him. Seen geometrically, any one aspect of behavior or trait is a point of intersection of different lines of influence, and the interaction of these different influences with the situation determine the point at which this intersection occurs.¹

SUMMARY

An individual's personality is not a natural outgrowth. He inherits from his parents certain physical, mental, emotional, and vocational potentialities which are influenced by the factors of the environment into which he is born and in which he matures.

The traits of personality are not independent entities, each developing apart from the others, but a constant interaction of the physical, mental, social, moral, emotional, religious, and other aspects of this development form an integrated whole which constitutes the personality.

The early years of a child's life are very important. The adults responsible for his education must have a thorough understanding of his nature and clear knowledge of the most effective techniques of desirable development. Activities within his abilities, a well-organized routine, freedom from emotional disturbances, and careful observation of inherent interests and aptitudes are essential.

The environment of the child should be so controlled that no one characteristic or trait develops to the point that it is dominant over other traits, preventing a balanced growth of all traits.

In an integrated personality there is a harmonious function-

¹ Reprinted from Lois B. Murphy, *Social Behavior and Child Personality*, 1937, p. 283, by permission of Columbia University Press, New York.

ing of all the physical, intellectual, social, aesthetic, recreational, and vocational possibilities of the individual.

The child whose personality is well balanced is free from emotional conflicts; he is efficient, successful, and happy.

QUESTIONS AND EXERCISES

1. Explain the statement, "No trait of a child develops in isolation from other traits."
2. To what extent may a parent predict the probable personality qualities of his newborn child?
3. Discuss the relative importance of biological inheritance and social heritage in the development of a child's personality.
4. If a child is born with a deformed right arm, what can a parent do to help his child's adjustment to a two-armed society?
5. What personality difficulties may develop in a very bright child whose parents are financially comfortable and ambitious? How may these difficulties be avoided?
6. Describe five ways in which undesirable fear associations may be developed in young children.
7. A three-year-old child indulges in "temper tantrums" if denied something which he desires. Trace the possible causes of this characteristic and describe desirable methods of treatment.
8. What can a teacher do about a boy in the fifth grade of elementary school who is sullen, insolent, and uncooperative?
9. How early should future vocational interest be stimulated in a child? Justify your opinion.
10. Upon what factors are a child's concept of "right" and "wrong" based? How may his moral understanding affect his personality?
11. Evaluate the statement that the first six years of a child's life are the most important in personality development.
12. List some of the forms of personality maladjustment common to young children or preadolescents. Illustrate one of these and show how it may be overcome.
13. Mary B. is the oldest child of a large family. Her I.Q. is 125, but her school work is unsatisfactory and she does not seem to be happy. What can a teacher do about the situation?
14. John M., age ten years, I.Q. 85, is an orphan who lives with his aunt and uncle and their only child, a boy age nine, I.Q. 110. What difficulties may arise and how should they be met?
15. Florence L., eleven years old, has four brothers ranging in age from nine to fourteen years. In order to assure for her a well-adjusted personality, what precautions must the parents take?

Chapter 16

The Exceptional Child

THE BRIGHT CHILD

Social importance of the gifted. Among all the deviates to be found in the school population there is no group more deserving of study than that comprising those children whose intelligence rating is distinctly higher than that of the rank and file. Strange to say, however, probably fewer exceptional children in this classification enjoy the benefits of wise and intelligent handling than in almost any of the other well-defined deviational groups. If, as we suppose, the future leadership of the race must rest upon the wisdom and the insight and the training of its brightest and cleverest members, society does ill in failing to exert itself conspicuously to the end that the gifted may be identified early and provided with a kind of training that may be relied upon to equip them adequately for the high task of leadership tomorrow. The creative work of the world, whether in the realm of the physical and technological or in the realm of the artistic and the literary, or in the realm of finance, or government, or economics, or the professions, or whatnot, must be performed by those relatively few in any generation whose intellects, regulated by proper emotional and social and spiritual training, shine like beacon lights across the horizon.¹

The gifted are superior in most traits. In general, the term *gifted* is reserved for the most brilliant one per cent of

¹ Leta S. Hollingworth, "The Importance of Studying Mental Deviates," *Jour. Consult. Psychol.*, 1, No. 5

the juvenile population, testing perhaps above I.Q. 130. The work of Terman,¹ Hollingworth,² Laycock,³ and others, has dispelled rather definitely the old wives' tale that the gifted, as a class, have more than the ordinary emotional, physical, or personality defects found among an unselected group. Thus, Terman found the gifted to excel the controls in all ages in originality, perseverance, sense of humor, common sense, ability to make logical associations, span of attention, initiative, power to generalize, breadth and depth of interests, etc. The bright child turns out also to be taller, heavier, better nourished, and in better general health than the unselected; he is likewise more honest and trustworthy. While there is, of course, considerable deviation within the gifted group itself, as DeVoss and others have shown, its members are on the whole superior to the unselected throughout the whole gamut of observable traits, with the possible exception of manual ingenuity. In the school they do their best work in abstract intellectual subjects, and their poorest in penmanship, sewing, manual training, and gymnastics, being in these performances no better than the controls.

Characteristics of the bright pupil. How may the teacher recognize the bright pupil? The following check list of characteristics may prove helpful.⁴

High score on an intelligence test.

Boredom and ennui, when there is no physical basis for them.

Quickness of mental process.

Occasional flashes of brilliant insight.

Liking for abstract subjects.

Impatience with slow and average children.

Superior vocabulary.

Striking unevenness in day-to-day performance.

Strong curricular likes and dislikes.

Evidence of wide general reading.

Superior general knowledge.

Inconspicuous manual and motor abilities.

Frequent moods of indifference to school tasks.

None of the qualities listed should be regarded *per se* as an index of superior brightness in a pupil. Taken together, however, they should provide a promising point of departure from which to observe and study any child believed to be of superior endowment.

High I.Q. should never be taken as the sole criterion for selecting children either for special classes or for special handling within the regular classes. The three most commonly used criteria Martin found ¹ to be intelligence, achievement tests, and teacher judgments, with scattered use of the following additional criteria: school records, health examination, parental sanction, psychological clinic, classroom work, rating in study habits, manifested interests, and projected educational plan for the future. Where special classes are in operation, Martin found that selection for them is ordinarily made around the third or fourth grade. The classes continue typically through the eighth grade, with two cities maintaining them also through the high school. The average size of class is 30.9 pupils. Socialization is provided for by permitting the special class children to attend the regular classes in art, music, and gymnastics, where they are necessarily thrown in contact with the mass of pupils. As little publicity as possible is given to the special class and its make-up. There is no established standard for the curriculum: some schools put greater emphasis upon the creative subjects of music, art, and dramatics; others fuse the social subjects for purposes of more unified study; others add modern languages, appreciation and writing of poetry, etc; still others are content merely with broadening the traditional course of study without adding anything new to it. The feeling is pretty general in those schools where

¹ L. C. Martin, "The Education of Gifted Children," *Jour. Except. Chn.*, 4, No. 5.

special classes are maintained that these children do not become egotistical and unsocial if wisely handled.

Segregation in school versus regular grade placement. Opinion among educators and psychologists is rather unfortunately divided as to whether gifted children should be selected out of the general group early and placed in special classes or continued in the general school population. In the former instance, they may have every incentive of expert teaching, proper competition, and adjusted curriculum to guarantee their profiting to the limit from the years of their schooling; in the latter, they may either follow an enriched curriculum, spending the same number of years in the schools as their less brilliant fellows, or they may be permitted to telescope the entire school course by proceeding through it as rapidly as they can, and so reach the higher rounds of the educational ladder at a correspondingly early age. Unquestionably the latter procedure in one or the other of its phases is the far more usual one followed in the United States. Statistics gathered by the U. S. Office of Education (1938) indicate that in 1934 only seventeen school systems in eleven different states maintained special schools and classes for the bright.¹ These numbers had shrunk by 1936 from seventeen systems to fourteen and from eleven states to nine, owing to the reduction in school support due to the depression. It appears that in 1936 only 3009 children of supernormal abilities were being schooled in special classes in the entire country.

We may contrast the contentions of Dr. Henry H. Goddard and those of Dr. Garry C. Myers to indicate the lines of argument with reference to the special versus the regular classes for these types. The former² insists that the bright child does not receive a square deal when compelled to remain in the undifferentiated class, that he is wasting his time, and that he tends to fall into habits of mischievousness, dawdling, and

¹ *Statistics of Special Schools and Classes for Exceptional Children*, Bull. 737, No. 2, Washington, U. S. Office of Education, 1937

² H. H. Goddard, "The Psychology and the Status Quo of Exceptional Children," *Jour. Except. Chn.*, 5, No. 7.

idleness because his alert mind is not kept properly occupied. In the special class, Goddard insists, the gifted child is happy, easily disciplined, and is in a situation in which the teacher has time and opportunity to bring about the needful adjustment of habits and attitudes. On the other hand, Dr. Myers contends that segregation of the gifted, while possibly advantageous to their intellectual development, creates difficult problems of social adjustment which cannot be overcome. He disagrees with the findings of Terman and Goddard, *et al.*, and asserts that the gifted child is regarded by his mates more or less as an odd stick; that he is socialized less readily than the average; that he finds other children dull and uninteresting and hence tends to withdraw from the group, thus confirming his social maladjustments; that he never equals them in play skills; that he is the butt of ridicule; and that he is driven more and more into unsocial forms of activity. Parents, too, it is alleged, make the lot of the gifted child worse by handling him as an unusual and rare specimen, and flattering themselves that they are given the custody and training of such a gifted individual. Let such a child, says Myers, remain in the regular class of children and proceed at his own speed.¹

Acceleration or enrichment? The more common practice by far is to continue the gifted children of a community in the grades with the rank and file, providing for them either an enriched curriculum that will require as many years to complete as the other children require to complete the conventional one, or else promoting them on to the next grade as rapidly as possible. The latter method is, of course, difficult to administer, and it has the disadvantage of creating social and physical discrepancies between those who are at age and those who are increasingly underage. The White House Conference endorsed the enrichment theory,² and it is probable that the majority of educators concur. The chief diffi-

culty with enrichment is the danger that the materials offered the gifted children may be little if any different from the conventional, and that such additional features as can be incorporated may prove to be sporadic and uncoordinated.

Regardless of how the curriculum is administered, it appears that, since the bright child is a completely normal individual so far as his health, interests, and capacities are concerned, there is no reason why he should become conceited, or egotistical, or unsocial, provided those who handle him from infancy upward do not spoil his chance to remain well adjusted in personality and character traits. Shown off and exclaimed over and boasted about and overstimulated by his parents, and heralded by his teachers as "different," a "prodigy," a "genius," etc., he tends naturally enough to develop traits of personality that are not to his advantage and that operate to imperil his social relations with other children and to impress him needlessly with his own rare gifts. The only patent reason for a gifted child ever developing into a maladjusted child is the fact that grown-ups in his environment do not give him a chance to be like other children and to grow up among them in a normal and healthful manner.¹ The responsibility of parents to safeguard the early development of the bright child and to protect him from all forms of scholastic or other exploitation is definite and clear. Regarded and handled from the first as a healthy, normal child should be, he should grow up into and through the school years with his personality and behavior patterns adequate to guarantee a well-adjusted and highly useful life.

THE MENTALLY DEFICIENT CHILD

The problem of the dull. That society appears more concerned over the problem of the mentally deficient child than over that of the superior is often inferred from the fact that, whereas schools and classes for the latter are few and far between and are becoming fewer and farther between,

schools and classes for the former are increasing by leaps and bounds. The U. S. Office of Education reports ¹ that forty-three of the forty-eight states maintain such special provisions for the mentally deficient in 643 different cities, with an enrollment of approximately 100,000 children, the figure having doubled even within the past ten depression years. It would appear that the public generally feels the importance of special consideration being given to the mentally dull in order to equip them to be self-supporting.

There are, of course, all degrees of mental deficiency, just as there are of mental sufficiency. In the present discussion we shall be limited to that group of the mentally deficient who, while being educable, cannot profit from the regular grade work and who must therefore be provided with an educational program that will prepare them for later vocational and social adjustment in the community. It is estimated that approximately two per cent of the school population falls within this classification. It is dangerous to attempt to delimit the two extremes of I.Q. range, for I.Q. is but one—though it is perhaps the most significant—of the determiners of mental deficiency. Every clinical worker has had the experience of finding two children with the same I.Q. rating, one of whom was classifiable safely as normal while the other was unquestionably feeble-minded. Much depends upon the social adequacy or the social inadequacy of an individual; much also depends upon his physical adequacy or inadequacy, and much upon the motivating influences which drive him. Possibly we shall be reasonably safe, however, in assuming that those border-line children whose I.Q.'s fall roughly between sixty and eighty comprise the educable group for whom the special school or the special class is indicated.²

Why the special class is indispensable. Permitted to drag through the allotted years in the regular class, the men-

tally deficient child wastes precious time at trying to master a kind of school work for which he has little or no aptitude, instead of being provided a curriculum adjusted to his potentialities and designed to develop his personality and social traits so that he may earn his livelihood and fit without friction into the life of home and neighborhood and shop. Compelled to apply himself to formal content or academic subjects, he gets no training of hand and sense; he becomes discouraged and often embittered at the poor showing he makes in the school-room, and he develops various compensatory attitudes and habits which are bound to interfere seriously with any prospect of satisfying life experience beyond the school years. Discovered early enough, however, and exposed to an educational program that is properly adapted to his peculiar limitations and needs, the mentally deficient child in the borderline group may escape the personality and behavior problems that are likely otherwise to ensnare him, and may be trained to be not only self-supporting but, and equally important, self-respecting and socially well adjusted.

It may well be, as certain educators in this field have pointed out recently, that vocational competence in a machine civilization is becoming increasingly more difficult for the borderline individual.¹ In a less highly mechanized and technological age, this type could be given simple manual and vocational training for which they could find a place in the workaday world; in modern industrial organization, however, the need for production workers is passing to a need for maintenance workers, and the latter must undoubtedly be possessed of more intelligence than the former. The machine has taken over the production end pretty largely; and the machine has consequently restricted sharply the potential channels of absorption of the mentally inferior people.² Still, it is obvious that it must be in the manual field that those of lower academic

intelligence will have to be absorbed, if in any at all, and it is theoretically and to a degree actually possible to keep the rolls of those who must continually receive relief at a minimum by maintaining in the schools a curriculum adapted to those children who can hardly expect to progress in the conventional subjects

Content of the special curriculum. The general nature of such a curriculum has been recently restated excellently by the Conference on Retarded Children¹ In the three R's, it is recommended, emphasis should be placed upon reading and number work that is common to the social and industrial environment of the child Reading should include street names, signs, food names, price lists, advertisements, household articles, family words, common animal names, sport pages, funnies, etc Spelling and writing should be limited to writing letters, applications, ordering goods, and other specific potential needs Number work is related definitely to marketing, personal budgeting, and the like Much attention should also be given in these classes to health habits and hygienic living in order that the pupil may learn how to conduct his life most efficiently In science, seasonal activities in plant and animal life, household chemistry and physics, and industrial processes can be presented As emotional stabilizers, art, music, dramatization, and rhythmical activities have an important place for the mentally deficient By presenting these materials in work or activity units of experience, the teacher of these types is able to capitalize the interests of her pupils, challenge their individual resourcefulness, and approximate actual life experience as a cooperative proposition and as an integrated series of events and situations Much study of individual pupils must of course be carried on to determine specific bent, abilities, interests, limitations, etc., and to adapt the materials of instruction to them

After all, the goal of schooling for any type of child is social

¹I. H. Martens summarizes the findings of the conference in the *Jour. Except Chn.*, 2, No. 4, 92 ff.

competence, and this goal stands out most sharply, perhaps, when one envisages the mentally deficient, for in a peculiar way the adjustment of these children to wholesome living is conditioned upon the skill developed in them to live independently, manage their own affairs circumspectly, adjust wisely to social surroundings, and achieve such cultural maturity as they may be inherently capable of achieving.

Need for improvement in the special program. Actual practice in the special class lags, of course, behind experimentation, and it is unfortunately true that in many rooms designed for the border-line pupil the curriculum is not sufficiently differentiated and individualized. Taking its origin in a somewhat obscure conviction that the special child cannot handle the conventional subjects, the course of study too often found in these rooms comprises a hodge-podge of manual activity, with the rudiments of language and the social subjects appended. Work units are too infrequently found, and a coordinated and synchronized program of properly adapted materials is perhaps the exception still rather than the rule. However, extensive beginnings have been made, and it is not too much to expect that increasingly in these classes we shall have a program of socialization and life preparation that will turn out, at the end of the special training years, young people who will fit more happily and competently into their situations than is perhaps yet the case save in relatively few instances. Murphy's follow-up study (*op. cit.*) of border-line deficient five to fifteen years later indicates too well that inadequate training in the school years leads inevitably to unsatisfactory adjustment, both socially and vocationally, in the after-school period.

THE PARTIALLY SEEING CHILD

Regular classes unsatisfactory for use of these types. Approximately one in every five hundred of the school population is possessed of vision sufficiently low to make it unwise to remain in the regular grade classes, and for these types

some 161 city school systems scattered over twenty-seven states maintain sight-saving classes. While provisions are thus made for but a small percentage of those children in our schools who ought to be receiving the benefits from such specialized education, it is gratifying to note that over a period of ten years the number of school systems maintaining sight-saving classes has doubled.

The children comprising this group are boys and girls with serious and often increasing eye impairment. Many of them have been given the best possible correctional attention, but even so the acuity and quality of their vision continue low, and it is important that they be placed in surroundings where every possible aid can be given to conserve the remaining vision and at the same time provide them with an educational diet that is not inferior to that of normally seeing children. Permitted to remain in the regular grades, they experience great difficulty in doing reading and number work, since manuals and work books and textbooks are printed in type which is either entirely undecipherable to them or else which will tax their eyes to the breaking point if they persist in making the accommodative effort to see. Seat work, board work, ordinary drill work, and map work of all sorts are impossible to them.

The sight-saving curriculum. In the special class, the partially sighted find the priceless boon of textbooks and work books printed in large, clear type; of maps and graphic material minus the mass of detail that they found so taxing in the conventional texts, and emphasizing only the important general factors; of large chalk and pencil, with heavy leads; of sizable sheets of buff-colored paper on which to work; and, quite commonly, of typewriters on which they may learn to write by the touch method and thus remove eye strain in note taking, composition, etc.; and of provisions for much coordinating work with the hands that can be carried on with a minimum of eye strain. Movable and adjustable desks, a maximum of manual work in connection with projects, much

oral instruction, and plenty of variety in instruction help to conserve the faulty or failing vision. At the high school level, good readers with normal eyes read aloud assignments for which there are no large-type books available, thus presenting essential materials to them in regular course through the auditory channels. Through these and other methods and devices, the well-organized modern sight-saving classes succeed in carrying along the partially sighted at a pace that does not fall appreciably behind that maintained by the normally seeing, and in keeping them thus always at grade. Supervisors and advisers help them in selecting their courses and in adjusting themselves in general to the work of the school.

Wise parental and school handling essential. It is highly important for the parent and teacher to remember that, like all other physically handicapped children, the partially blind are driven by the same motivating forces, crave the same satisfactions, and have the same emotions as the normal group. They should not, therefore, be singled out and made to feel different from the others; so far as they are individually able to enter into the normal activities and enjoy the routine range of experience open to all children, the partially sighted should have many of the same experiences and be afforded the same opportunities for self-expression as children with normal vision. While being constantly sympathetic to their obvious limitations and solicitous of their needs and welfare, the adult guardians of the hard of seeing should make every effort to indicate by their attitudes and their expectations that these children are essentially comparable to all other children, and to see to it that they are under no circumstances dismayed with the troublesome apprehension that they are inferior, or incompetent, or incapable of going forward like other children. Especially are they not to be branded as "defectives," or "blind," or "abnormal." Rather, they are to be given the reassuring consciousness that the handicap they have is not insuperable, and that the school and society

are adapting educational materials to their type of impairment so cleverly and effectively that they will be quite as able as the others to succeed in the world and to enjoy the ordinary satisfactions and pleasures of life

Early detection of defective sensory apparatus important. There is one other obligation which every parent and every teacher should observe, that is, to be on the watch from the earliest months of the child's life for any evidences of abnormality or impairment of the sense organs, especially of the eyes and ears. It is nothing less than tragic when, as too often happens, the degree of vision in a child's eyes, or the sharpness of his hearing, deteriorates undetected to the point where recuperation or even staying is impossible. Through neglect of infections or of the after-effects of certain of the common respiratory diseases of childhood, or through unreduced strain upon the sense organs, it often comes about that a child's eyes or his ears proceed a long way on the road to deterioration without anybody's being the wiser. • Even the routine schoolroom health inspection may fail to detect the condition until it has become aggravated. Parents and teachers may be equally at fault in ignoring the evidence, or in ascribing it to heedlessness or obstinacy, when as a matter of fact inestimable and irreparable physical damage is being done to the organs by the daily routine. The continuing exaction which ordinary school and home tasks make upon failing eyesight and hearing not only endangers the stability of the organs but may also and commonly does permanently impair them, and set off in the personality a long train of psychological symptoms such as loss of confidence, inferiority, discouragement, bafflement, and sometimes even rebellion and delinquency.

Often of course the victim does not himself realize that his eyes or ears are any different from those of others about him, especially is this the case with younger children, notably with those in whom the deterioration gets under way in the pre-school years. Having no standard of memory for comparison, the child cannot but ascribe to a defective mind rather than

to deficient sense organs his subsequent poor showing in school, his hesitancy and uncertainty of reaction, and his growing social embarrassment and ostracism. To fail to discover early any such irregularity is to start the sufferer off upon a pathway that becomes increasingly steep and impassable. Prompt detection and medical attention are the right of every child thus handicapped. The adequate parent and the adequate teacher will be continually on the watch for the first indications in every child that deficiencies of eye or ear are coming into evidence. In this connection, of course, much more ought to be done than is now being done to construct, equip, and maintain the conventional schoolrooms everywhere so that the best known principles of health control may be exemplified, especially as they relate to the conservation of hearing and vision.¹

THE HARD OF HEARING CHILD

The problem defined. In modern educational terminology the term *hard of hearing* is reserved for those children who are born with normal senses and who are therefore able to develop normal speech patterns through the conventional imitation of speech in the social milieu of childhood, but who somewhere along the educational pathway—perhaps shortly after school entrance, perhaps not until high school—find themselves with impaired hearing ability. This condition may not be progressive, but it usually is. The subject is normal in all respects, including ability to speak, but he finds it increasingly impossible to hear, for which reason unless proper measures are taken he may suffer psychologically, socially, and vocationally. School statistics indicate that approximately ten per cent of the total school population are thus handi-

¹ No discussion is offered here of the totally blind, nor of the totally deaf with poor vision, nor yet of those with poor hearing and poor vision. These types are so specialized and demand such peculiar attention in institutions or in specially segregated groups that they do not properly belong in this treatment. Cf. I. B. Hall, "Practical Treatment of the Deaf-Blind," *J. of Excerpt. Chn.*, 3, No. 4, 102 ff.

capped by impaired or destroyed hearing. In the present discussion we shall disregard the relatively few congenitally or otherwise totally deaf (numbering only about 52,000 persons in the United States), since they must ordinarily be institutionalized, and present no problem to the rank and file of teachers and parents. For classificational purposes, a loss of sixty-five per cent or more of hearing ability in the better ear automatically places an individual in the totally deaf or "stone deaf" category, and for him institutionalization in state or private schools for the deaf is ordinarily indicated.

Impaired hearing does not make normal adjustment impossible. It cannot be pointed out too emphatically that the hard of hearing child is a *normal* child so far as his endowment and potentialities are concerned, his only claim for inclusion among the exceptional being the fact that specialized techniques must be utilized to safeguard his personality and provide for his socialization. Whereas the totally deaf fail to dominate their environment and are socially less competent than hearing individuals,¹ it has been demonstrated in great numbers of instances that where special attention is given to the hard of hearing they may be adjusted with tolerably complete satisfaction to themselves and others. Brunschwig, for example, has shown² that there was sufficient overlapping of social behavior scores as between even the deaf in residential schools and the hearing children outside to indicate that the former were not a group apart from the latter. Habbe has shown likewise that hard of hearing junior high school boys tend to show the same behavior characteristics and personality traits as do normally hearing boys.³ Madden, using 4-A audiometer tests in conjunction with intelligence and achievement tests, concluded that the psychological responses of the

hard of hearing "differ more from those of the deaf than from those of normal hearing," and consequently that the hard of hearing should be educated with the normal rather than with the deaf.¹ Meyer deplores the fact that children with low hearing are herded together instead of being handled in the normal hearing group. Even the deaf children, he recommends, "should be educated in public day schools that keep them confined in the company of the deaf the smallest number of hours possible among the twenty-four."²

Peck and Samuelson distinguish, in addition to the deaf and hard of hearing, border-line or intermediate types comprising children who are unable to hear conversational voice, even when it is raised without the use of hearing aids, and also children who develop total or almost total deafness after having finished four or more years of school.³ Many of these border-line cases can be continued, they maintain, in the regular classes provided they are taught lip reading and proper conservation of their hearing and speech. A few require special classes, and some should be placed in schools for the deaf, the disposition of each being a strictly individual problem involving vocational, social, and personal backgrounds and adjustments.

The modern viewpoint stresses principles of mental hygiene. Beginning with the monumental work of the New York League for the Hard of Hearing, in 1910, there has come about in the United States a strong movement in most communities to identify as promptly as possible those children who are developing hardness of hearing or whose hearing level has fallen, and to provide for them a supplementary form of schooling that will make it possible for them to continue normal life experiences both in school and afterwards in the life of the community. The formation of the American Society

for the Hard of Hearing, in 1919, solidified and gave national scope to the movement. Heretofore, "poor little deaf children" had been regarded as and treated as irredeemably abnormal. And, save in sporadic instances of self-discipline, they did actually prove to be helplessly maladjusted vocationally, socially, and psychologically.

The modern viewpoint regards the hard of hearing child, as we have seen, as a thoroughly normal individual, with normal potentialities for education and adjustment. It is when other children are taught to regard him as different, or when he is herded into segregated groups of similarly handicapped pupils or is otherwise singled out as abnormal, that the hard of hearing child becomes a behavior or a personality problem, and the task of training him for any worth-while vocational adjustment a formidable one. To fail to conserve the hearing from the beginning, to incarcerate hard of hearing children in schools or institutions for the deaf, to penalize them for acquiring lip-reading skill, to make them any more oversensitive to the use of hearing aids than the partially sighted are to the use of glasses, to withdraw them from the regular group and place them in ungraded classes because they are falling behind scholastically, to withhold occupational and vocational preparation, and to think of or refer to them as abnormal persons—all these are disastrous to the hopeful and adequate schooling and the normal personality evolution of the hard of hearing group. Unfortunately, however, the rank and file of those who surround them—teachers, pupils, adults in the community, and even many parents—have not yet learned the basic lessons regarding the training and handling of those whose hearing is impaired.

Lip reading. Lip reading, for those who are sustaining a hearing loss, should be started as early as possible; prompt identification of the hard of hearing and of the potentially hard of hearing is therefore important. In the kindergarten and primary grades, play and handwork activities form the basis for building up a speech and lip-reading vocabulary the

extent of which is limited only by the breadth of the program set up. Since the language problem is the principal one, personal experience and the interpretation of the experiences of others must be made the basis of instruction in lip reading through the constant use of written, spoken, and printed language. With the proper foundations laid for lip reading and speech, the child can, by the time he is ready for the junior high school grades, carry on the regular departmentalized work inconspicuously. The only requisite is that the teachers shall be sympathetic and cooperative so that the child may have every inducement to progress at the normal rate.

THE CRIPPLED CHILD

Causes and extent of crippling. The White House Conference on Child Health and Protection (1930) estimated that there are some 300,000 crippled children in the United States, of whom 100,000 are in need of special education. Not more than one-fourth of these 100,000 are actually enrolled in day schools (24,865 in 1936), and we must therefore assume that some 75,000 such children are either getting no educational opportunities, or are getting only sporadic or ineffectual ones. Many of this larger group are bedridden and helpless; many lie in traction or in body casts, or walk with abduction splints and casts and are able to move about only in greatly circumscribed areas; many are either permanently or for indeterminate periods in hospitals or institutions; many are quite neglected, and are in consequence without opportunity or hope.

There are many kinds of crippling, of course. Accidents alone, notably upon the highways, have reached a staggering figure in this country. It is estimated that, at the present rate, one out of every three of our children will be either killed or permanently maimed before he lives out his life expectancy period.¹ Fortunately the growing consciousness

¹J. J. Lee, "The Economic Significance of Rehabilitation," *Jour. Facult. Chn.*, 3, No. 2, 45 ff.

throughout the country everywhere that something drastic must be done to protect those still unmaimed is beginning to make a favorable showing. Industrial accidents also are responsible for much crippling, especially at the adolescent level. Infantile paralysis and bone tuberculosis are common destroyers of the vigor and health of bones and muscles of children. Weakened hearts resulting from the toxins of the children's diseases or from congenital deficiencies cripple many children, although cardiac conditions are less numerous than strictly orthopedic forms of maiming. Infrequent causes of crippling include malnutrition and rickets, falling, severe burning, spastic paralysis, encephalitis, epilepsy, hemiplegia, arrested motor development, pallidar lesions, developmental disturbances, etc.¹ While many cases of crippling, especially those of a developmental nature, require special and long-time hospitalization, the more usual forms of crippling are manifested in children who find it possible to get to school, or who at least are educable and therefore must be handled educationally either at home or in the hospital ward or in whatever other place they may be receiving care or treatment.

It is now rather generally established that the care, education, and rehabilitation of cripples is a state responsibility.² Whenever conditions of safety demand it, or whenever they require special treatment or services unavailable in the conventional schoolroom, they should be placed in special classes.³ As is true of most other forms of abnormality, it is desirable to retain crippled children in the regular classes (according to their mental abilities) if their degree of helplessness is not too great to make such a thing practicable. Actually, ninety per cent of our handicapped children are in the

care of regular teachers. A recent survey in one typical state (Colorado) indicates that only twenty-nine per cent of the parents of crippled children are financially able to provide for the care and training needed by these types, for which reason the necessity for the state's assuming it is obvious.

Psychology of the crippled child. Regardless of the extent of their mental impairment, if any,¹ it is highly important that teachers and parents who have crippled children in their charge shall have recourse to the wisest principles of mental hygiene in dealing with them. Impeded in their movements, they are ordinarily sharply limited in their play activities, and hence their social natures may suffer unless particular efforts are made to help them to adjust with reasonable satisfaction to their lot. Cheerfulness and matter-of-factness become indispensable in those who associate with them, and there must be never the slightest degree of commiseration or wistful "resignation" manifested. Plenty of challenging mental activity gauged to their capacities and such physical activity as is feasible to their condition should be always available to them. If special physical helps or devices or special furnishings and equipment are required, they should be supplied as a matter of course, without display of emotion or pity. Everything should be done, in other words, to make the handicap or the deficiency as inconspicuous as possible and to encourage the subject to react objectively and philosophically to his condition. If a special regulation of diet is indicated, care should be taken to create an entirely normal atmosphere surrounding all phases of it. It is important, too, that the teacher shall take opportunity, when the handicapped child or children are not present, to

encourage the normal child associates to maintain likewise a matter-of-fact, though an always sympathetic and understanding, attitude toward them. Under no circumstances is the presence of a handicapped pupil to be seized upon by a thoughtless teacher as the occasion for a pointed lecture to the school on "our duties toward those who are lame," or "why we must have sympathy for the weak child," etc.! Handicapped children, at best, become easily morbid and unhappy when they compare their own relative helplessness with the unhampered and unrestricted activities enjoyed by the physically normal; consequently it should be the care of all those who minister to them to encourage them in every possible way to react wholesomely and positively to their condition.

THE DEVIANT CHILD

Certain exploded ideas. Under this category belong three general types of deviating children: (1) the anemic; (2) the tuberculous; and (3) those with cardiac conditions. The term *pretuberculous*, long used to designate those children of low vitality who might be expected to become tuberculous, has now been discarded. It has been abundantly shown that the debilitated child is no more likely to develop tuberculosis than is the robust or normal child.¹ Exposure to active tuberculosis is the only constant condition for the development of the disease in any child, and it appears to make little difference whether he is anemic or not. The Massachusetts studies showed one-third of the cases of pulmonary tuberculosis to be in children who were not underweight and twenty per cent of the contact group to be in normal and overweight children.

Into the discard along with the term *pretuberculous* have gone the venerable height-weight tables that have so long misled people into supposing that there was an average, "typical" weight for every child, and that any individual

weighing ten per cent less than his designated norm was anemic and pretuberculous. The only way to establish the presence of tuberculosis is by a careful and competent examination by the tuberculin test and the X-ray. The nutritional condition of a child is of tremendous importance, of course, and schools everywhere are giving more and more attention to it. The value of nutritional work with children, however, does not lie in preventing them from developing tuberculosis; rather, it lies in the building up of their resistance to all kinds of infection and in teaching them how to live effectively and with the greatest likelihood of happiness and unrestricted activity.

Early detection of cardiac conditions important. Seven-tive per cent of all cases of heart disease develop in children under ten years of age.¹ Owing ordinarily to tonsillar or other infections, the heart is extremely likely to be damaged during the childhood years, and it is highly important that the genesis of any cardiac condition shall be discovered promptly. Adequate cardiac examination can be made only with the clothing removed, and the legal restrictions in force in many localities operate to handicap the proper preventive programs. Most children with heart symptoms can participate in the conventional school program, and hence do not require segregation. They present the same problems in general health as the normal children, with the added one that they must be helped to build up their natural resistance to the point where no further injury can be done the heart.² Only those in whom the functional ability of the heart is impaired require to be removed from the regular classes and given specialized care.

Open-window schools and feeding programs. Ever since the opening of the first open-air school in Charlottenburg, Germany, in 1904, there has been much attention given to

the importance of open-air treatment of anemic and delicate children. Often the zeal for open air has led educators to postulate *cold* air, and we have witnessed all degrees of low temperature being maintained in various open-window schools and "health rooms" throughout the winter months. The end result of such low temperatures is, of course, as Rogers points out,¹ a waste of body energy and a consumption of body reserve that should be husbanded jealously. Even the wearing of extra clothing in a cold room makes a fatiguing encumbrance that a reasonable degree of warmth in the room would make unnecessary. Best results are achieved in temperatures between sixty-three and sixty-eight degrees Fahrenheit.

School feeding for the underprivileged and undernourished has been carried on in various parts of the country since 1917. After all, the chief difference between both the body processes and the body composition of normal and malnourished children is their intake of food. In most cases a consistently adequate diet, possibly somewhat beyond that needed by a well-nourished child, will ordinarily restore a malnourished child to a normal condition of health and nutrition, with a corresponding reduction in the nervousness and easy fatigability that usually accompany the condition. While milk is traditionally the best dietary staple for these types, it has been found that the addition of almost any nutritious supplements to the intake of the malnourished - *e.g.*, milk, figs, oranges, wheat germ, sandwiches, etc.—brings about improved nutritional status.²

Rest therapy. Coming more recently into the picture to supplement open-air schools and feeding programs has been the idea of rest and relaxation at stated periods during the school day for all children whose health is in any way precarious. Unquestionably rest therapy is quite as important

as either of the other two. Many children are below par physically simply because they do not get enough rest. They are subjected to strain and insufficient sleep periods at home; they are kept mentally alert and active and sometimes driven altogether too hard in the school;¹ and they are overstimulated in the community. The Committee on Handling the Delicate Child, organized in 1933 by the International Council for Exceptional Children, expressed the opinion that every school should provide a place for rest and extra feeding, and that there was no need of setting up special classes for such children if these provisions were made. In the Boston plan the underpar children attend the regular classes for the greater part of the school day, but are given midmorning and midafternoon rest periods on army cots every day, with a special feeding at ten-thirty.

School and home cooperation. The care and cure of delicate children requires the closest cooperation between the school and the home. The teacher should manifest sympathy and should be alert to cooperate in carrying out the regimen recommended by doctor or nurse, with special reference to problems of diet, rest, and personal hygiene. She should familiarize herself with the home situation of any delicate child and work closely with the parents, convincing them of the school's interest in their child's health and keeping them aware, through frequent conferences at the school, of the progress made as indicated by the charts and graphs and other records which are being kept. The parents, on their part, should follow faithfully the recommendations of school doctor, nurse, and teacher, or their own family physician, with regard to the food, sleep, and relaxational habits of the child. They must be eager to make use of any clinical or outpatient or other facilities recommended for his treatment and welfare. Parental disputes and disharmonies must be reduced to the vanishing point in order that emotional tensions and nervous apprehensiveness may be eliminated from the child's

¹ E. B. Sterling, *Nutrition and Education*, U. S. Public Health Service 37, No. 45.

experience. There must be manifest no parental "finnickiness" or crankiness about diet, since the imitative value of such attitudes is high. Occasionally, by interesting some social agency or welfare worker in an inadequate home, a teacher may aid in bringing about a family adjustment that will do much to reduce tension all around, and especially in the child who might otherwise be kept continually in a condition of worry and "nerves," and thus become more confirmed than ever in his poor habits and poor health.

THE CHILD WITH DEFECTIVE SPEECH

Extent of the problem. "If," remarks Johnson, "general medical practice were no more advanced than speech correction, most of the common and less sensational diseases would not even have names!"¹ This statement discloses a condition of much confusion in the general field of speech abnormality and correction. Adequate diagnostic principles have hardly been achieved in speech pathology, and correction obviously lingers behind. A speech-conscious individual needs but to listen to the speech habits of the next score or two persons he meets to be profoundly impressed with the defects of articulation, phonation, and physical formation of words that characterize legions of otherwise quite normal people. And this notwithstanding the fact that a person's speech is his most characteristic and revealing trait. In fact so universal are speech abnormalities and anomalies that it may be a bit superfluous to include in this chapter on exceptional children any discussion of them.

Still, there has grown up within the past decade a strong and determined movement in our public school system to uproot some of the more common speech difficulties of children, especially those that are reasonably remediable through special speech classes or through special efforts in the regular classes. The movement is developing faster, probably, than

¹ W. Johnson, "Research Needs in Speech Pathology," *Jour. Excerpt. Chn.*, Jan., 1938, pp 33 ff.

any other contemporary educational innovation, not fewer than 125,000 children now 'enjoying the advantages of special class work in speech correction in the public schools of the United States. We shall make no effort here to go into the differentials of speech anomaly further than to distinguish between those conditions that may be said to be functional and those that are structural. The latter are decidedly less common, being confined principally to malformations of jaws, palate, larynx, etc., and to such conditions as dental malocclusions, harelip, thick tongue, and the like. These cases are often, though not necessarily, associated with other physical or mental defects. Being structural in nature, there is little that the parent or teacher can do to correct or facilitate the speech function.

Functional defects of speech and their causes. The vast majority of the cases of deficiency in speech are functional. That is to say, the subject has developed faulty habits of speech and of articulation, often from the very earliest weeks of speaking, and these have fastened themselves upon him with all the fixity of any other physical habits. They may not have been associated either with poor hearing or with poor speech models. Most often they have been associated with faulty emotional adjustments which have become intensified rather than dissipated with growing social experience. Correction must often involve a vast amount of personality re-adjustment as well as re-education of the speech function. It always does in the case of the more deep-seated defects. As Blanton and Blanton have pointed out, tension and the nervousness resulting from it lie at the root of numberless speech abnormalities in children, both in the home and later on in the school.¹ Let the child, by experience feelings of insecurity, inferiority, anxiety, and the like, the effect upon his nervous system is likely to be widespread and profound, manifesting itself often in stuttering or other speech defects. Frequently other forms of nervous manifestations, such as

¹ *Speech Training for Children*, Appleton-Century, 1919, p. 183.

thumb sucking, habit spasms or tics, biting the nails, masturbation, and choreiform explosions are found associated with the speech difficulties.

Frequently also downright faulty training of the speech organs and the adoption of slipshod habits of articulation may be found to be the basis of the slovenly, characterless speech of many people, young and old. Good speech necessitates vigorous oral activity, careful articulation, and good enunciation. Since it is much easier to use the minimum of muscular effort, the tendency is strong for anybody to fall into slack and careless habits of speech. Helen Keller, when asked on one occasion a commonplace question by a gentleman who spoke so rapidly and slurred over his words so hopelessly that even her skillful fingers could not interpret the muscular reactions of his throat, made a remark pregnant with meaning. "You will have, sir," she said with the most careful enunciation, "to speak much more distinctly and carefully if you expect my poor fingers to be able to understand what you are saying!" Miss Keller's criticism applies well to millions of people whose speech is slipshod.

Speech correction techniques. In the special class for speech correction, to which ordinarily children with speech deficiencies selected from the regular grades go for weekly drill, the children are assembled in a cheerful, quiet room containing plenty of interesting small objects about which easy speech can be carried on, and are given careful individual practice as well as group drill in the proper use of the voice in speaking. In the Butte, Montana, special classes,¹ for example, the thirty-minute period is divided into two halves, the first fifteen minutes being devoted to relaxation, mental hygiene, ear training and articulatory drills, and the last fifteen to individual work. Choral reading is found helpful in aiding individuals to gain confidence; poems, stories, speech games and plays, pictures, and speech-recording devices are

¹ A. Golubin, "Speech Correction Programs in the Public Schools," *Jour. Exptl. Chn.*, 4, 16 ff.

all made use of to motivate and interest the children in improving their speech. The Butte technique is fairly typical of procedures in most communities where special attention is given to children whose speech is faulty and inadequate.

Attitudes of the teacher and the parent. Much must be done in the field of speech correction and training by the regular classroom teacher, for, after all, as is the case with most other types of exceptional children, it is only a relatively small percentage who receive any special attention. Relatively few communities thus far have taken the step of providing special class drill in speech for those needing it; consequently, such speech correctives and aids as the regular classroom teacher can give represent about the only help yet available to the rank and file of children. To meet adequately the opportunity thus presented to her, the teacher needs above everything else to cultivate a well-modulated voice and good speech patterns, to be herself a well-adjusted person, to be orderly and controlled, and to eliminate from the handling of her children such unlovely and decidedly disastrous traits as nagging, loss of temper, irritability, impatience, and all other habits or attitudes that tend to create tension and fear in them. Knowledge and personal practice of the principles of mental hygiene are quite as essential in the teacher who would eliminate nervousness in children and help them to cultivate proper speech habits as are knowledge of speech mechanisms and skill in applying corrective or adjustive treatment to those who are handicapped in speech. Similarly, the parents whose child is found to be developing speech irregularities or defects need to look to the quality of their own speech, and to the cultivation of personal poise and emotional control, to the end that all possible causes of tension in the child may be reduced or eliminated.

QUESTIONS AND EXERCISES

1. Does the future advancement of the race actually depend upon the "wisdom, insight, and training of its brightest members,"

as the text suggests, or does it depend rather upon the raising of the general educational level of the masses?

2. Analyze and record your own impressions of such bright or gifted individuals—children or adult—as you have chanced to know. Does your general feeling correspond to the findings of Terman with reference to these types, or do you consider that such individuals tend toward the egotistical, the vain, the neurotic, the unsocial, the nervous, etc.?
3. If, as Viteles and Plante state, the potential channels of vocational absorption of the mentally inferior are becoming narrower as the machine takes over production, leaving principally maintenance workers to preside over it, what sort of future faces the coming generations of people with I.Q.s, say, of fifty to eighty?
4. Indicate how the following sociological problems are involved in the question of the mentally inferior: the Malthusian doctrine; eugenics and eugenics; urban and rural living, social welfare, relief and security, birth control; public education.
5. Make a survey of the curricular content of the special classes for the backward in your community. Attempt to evaluate their adequacy as a preparation for the future personal, social, and vocational adjustment of the dull in the community. Suggest eliminations and substitutions which you feel are warranted.
6. Make a visit to a sight-saving class for the purpose of noting the at-grade-ness or below-grade-ness of the pupils, the specialized equipment, the instructional techniques, the content of the curriculum, the size of the class, the personality and the adequacy of the teacher, etc., and the general atmosphere prevailing in the room.
7. Make an elementary study of the more important problems centering around the care and training of: (1) the totally deaf child; (2) the totally blind child; (3) the blind and deaf child; (4) the deaf child with poor vision; (5) the blind child with poor hearing; and (6) the partially sighted child with poor hearing.
8. In what specific ways is the modern program of lip reading for those whose hearing is impaired superior to the older use of the manual alphabet and the sign language for the deaf and hard of hearing?
9. Prepare a five-minute talk which you think would be helpful for the parent of a hard of hearing child, stressing such points as the psychological care and handling of the child as you feel

it important to be understood by an adult having the responsibility for the training and home management of such a child.

10. List in order of statistical importance the principal causes of the maiming and crippling of children. In parallel columns suggest (1) preventive and (2) correctional or educational or rehabilitational measures that should be observed in improving the status of such children.
11. Investigate the various activities carried on in your state for the care and rehabilitation of crippled children. List any sanatoriums, hospitals, etc., designed for the treatment of cripples, and familiarize yourself with the programs of these institutions. What hospital classes are maintained for temporarily crippled children in your city, or elsewhere in your state?
12. Considerable blame for the weakened resistance and impaired general health of so-called delicate children has been attributed to the failure of the home to provide for adequate and proper rest for the child, and to keep at a minimum the strain from overstimulation and emotional conflict. Elaborate upon this notion in the light of your own knowledge and experience touching the home life of the modern child.
13. What reasons may be assigned for the rather generally faulty enunciation and the poor level of speech found in large groups of our population?
14. What are some other types of exceptional children besides those discussed in the present chapter? To what extent is their care a problem for the schools? Do the schools as you know them deal adequately with these deviates?
15. Possibly the most essential single condition underlying the success of the entire program of the care and training of atypical children is the mental health of the teachers of these types. Why is this matter so important, and how adequately do you feel teachers are, as a class, equipped to render the best service to these unfortunate children?

Chapter 17

The Psychoeducational Clinic

WHAT A CLINIC IS

Once the words *clinic* and *clinical* were used exclusively in medical practice. A clinic was defined as a place or an organization concerned with the examination, diagnosis, and remedial treatment of physical or mental ailments. The clinical method was a procedure in the individual study of the patient who was brought to the clinic. Now, however, these words have a much broader connotation. A training school for football coaches may, for example, be termed a clinic. Social workers who have specialized in family relations may set up a family guidance clinic. In connection with public schools there may be clinics for the examination, diagnosis, and treatment of pupils who have special difficulties with reading, arithmetic, or writing. Some colleges have clinics for students who have poor study habits. Likewise the term *clinical method* has now come to have a broad meaning. It is applied to individual case studies of atypical people or to any thorough investigation of an individual's problems and difficulties. Some writers even employ the term when they allude to studies of whole groups of people or to community surveys. In short, whenever there is an attempt at a thorough examination, diagnosis, and remedial program, these words may be employed to designate, respectively, the organization making the study and the procedure used in conducting the investigation.

The development of the psychoeducational clinic. The first psychological clinic was established by Lightner Witmer

at the University of Pennsylvania in 1896. From the time of its establishment until his retirement in 1937 Witmer directed this clinic. Originally he defined its purpose as: "the study and remedial treatment of mentally or morally retarded children, and of children suffering from physical defects which result in slow development or prevent normal progress."¹ He soon recognized the importance of taking into account the contributions of various fields closely related to the clinical study of children. Especially did he emphasize the close relationship among psychology, medicine, sociology, and education. A number of the highly specialized fields of clinical psychology are direct outgrowths of Witmer's clinic. With the rise of specialized branches of clinical psychology, such areas as the following have become differentiated: speech correction, vocational guidance, personnel administration, mental hygiene in school and in industry, and special education for atypical pupils.

The guidance clinic has been in existence for more than a quarter of a century. William Healy, the pioneer in this field, founded the first guidance clinic in Chicago. At the outset it was supported by a private foundation, but after a few years Cook County assumed its financial support. By 1920 the clinic had become known as the Institute for Juvenile Research, a name it still bears. In 1917 Healy left this clinic to take up the direction of the Judge Baker Foundation in Boston, where he developed an organization now known as the Judge Baker Guidance Center.

Despite the fact that the first clinic for retarded and atypical children was founded as early as 1896 and that Healy's work attracted wide attention, the movement was very slow in getting under way. Among those who were interested in the possibilities of clinical studies of individuals in fields other than that of medicine were Goddard, Huey, Kuhlmann, Wallin, Terman, Pintner, and Healy.

The National Society for Mental Hygiene, in 1909, gave both moral and financial impetus to the cause of the clinic. Colleges and universities, becoming aware of the importance of this new development, commenced to train social workers, visiting teachers, and psychoclinicians or mental testers. In 1920 the Commonwealth Fund became interested in establishing child guidance centers, and offered financial support to get such projects started. By 1932 there were more than two hundred child guidance centers or clinics in existence. Educational, psychological, and guidance clinics are now frequently found in public school systems and in higher educational institutions.

The attitude of the public toward the clinic has not been altogether sympathetic and cooperative. Some of the antagonism may be due to popular misconceptions regarding the mental examinations, the scope of this new field, and the general purposes of clinical studies. No doubt, the application of the clinical method in nonmedical fields contributed to misunderstandings. Some people thought of a clinic as a place where none but mental defectives were taken. Many individuals had, and still have, erroneous notions of intelligence tests. Consequently, a large number of parents assume that when a child is given a clinical examination he is suspected of being feeble-minded, maladjusted, or in some other manner seriously atypical.

To be sure, Binet and Simon did devise their first intelligence test (1905) to differentiate subnormal from normal children in the schools of Paris. Their 1908 scale, however, emphasized, as its French title indicated, the development of intelligence in normal children and not merely the detection of mental deficiency. The fact remains that in America intelligence tests were first used in the diagnosis of feeble-mindedness and in the institutional study of defectives. Popularly, therefore, uninformed persons feared the tests and oftentimes refused to allow their children to be tested. They erroneously associated the psychological clinic or the guid-

ance center with the detection of mental retardation. This attitude greatly handicapped clinical workers in the early years of this movement. The idea that clinical studies of normal and of superior children might be helpful in adjusting these children to the school and the community took a long time to win popular acceptance.

The function of a clinic. The major purpose of the clinic is to bring about a more satisfactory adjustment of the individual to his environment. This broad purpose may be broken up into three basic functions served by clinics: the service function; the research function; and the educational function.

Some clinics have been established for the express purpose of helping individuals who have problems or difficulties requiring diagnosis and solution. Clinics held in connection with public schools and colleges are usually of this type. Their function is primarily to serve the needs of those who seek, or are referred to, its facilities. By tests, diagnostic interviews, and discussions they aim to bring about a better adjustment on the part of the individual. Some clinics have been established for the sole purpose of conducting research studies in child development, juvenile delinquency, or personality trends. Their aim is to add to the store of existing information about some given field of knowledge and to suggest better ways of dealing with individuals. Nearly all clinics provide facilities for the training of beginners; hence they serve an educational function. In fact, some clinics have been established primarily to serve as training schools for people who wish to enter clinical and guidance work.

Most clinics serve the function of giving helpful service to their constituencies. Relatively few clinics are able to support an extensive research program. Although there are some noteworthy exceptions, few clinics have the staff or the financial resources essential for intensive research. Clinics supported by private foundations and by larger universities have done the most extensive and significant research work. In

general, the clinics are concerned with meeting the practical needs of people.

Types of clinics. Such names as the following will indicate the wide variety of designations and of functions: behavior clinic, mental hygiene clinic, child guidance clinic, educational clinic, psychoeducational clinic, vocational guidance clinic, reading clinic, and speech clinic. These are only a few of the titles that appear in the literature dealing with clinics. For the most part, however, the title is relatively unimportant, since it is often based upon nothing more than a director's or a founder's whim. All clinics really have the same fundamental aim—namely, to help children to develop, or to maintain, wholesome and well-adjusted personalities. Specific clinics may, however, specialize in various phases of this broad task.

The following universities maintain excellent clinics for research, dissemination of knowledge, and training of clinicians: Harvard, New York, Indiana, Northwestern, Ohio State, Stanford, Teachers College of Columbia, California, Iowa, Illinois, Michigan, Minnesota, Pennsylvania, Toronto, and Yale. Many other institutions maintain clinics that are equally helpful and important. For the most part, these clinics deal with various types of behavior and adjustment problems. Some universities maintain special clinics for reading and speech disabilities. Pennsylvania State College, for example, maintains an excellent clinic for school children who have particular difficulties in learning how to read effectively. Iowa has a well-known clinic for speech correction. New York University has clinics for gifted, subnormal, and problem children, including those with minor emotional maladjustments and subject-disabilities. Examples might be multiplied at great length.

TYPES OF CLINICAL PROBLEMS

One of the broadest descriptions of clinical problems has been stated by Wallin: "The clinical psychologist may, if he

chooses, study any individual whatsoever, be he adult or child, male or female, normal or abnormal, sane or insane, dull or bright.”¹ Most clinicians, however, do not take this statement literally. The interest of most clinicians is largely confined to atypical children, particularly to those who have difficulty in adjusting to the normal program of the public school.

Louttit² cautions against the inclusion of a wide variety of problems. Cases in which the trouble is primarily organic should, he believes, be left out of the clinician's province. He counsels that clinical work should not be undertaken with groups of individuals, but should be confined to a study of a single person. He adds that the most hopeful field of work is that which deals with children rather than with adults. Doll³ has suggested that the following fields are within the scope of the clinician: (1) educational--classification, remedial instruction, and guidance; (2) vocational--guidance and occupational selection; (3) child guidance; (4) mental hygiene; (5) mental condition--deficiency and abnormality; (6) delinquency; and (7) social welfare.

If the clinic is operated primarily as a service agency, a wide variety of cases may be accepted. Such a clinic aims to offer the greatest good to the greatest number. If the clinic is primarily concerned with giving instruction to beginners, the cases are usually selected for their training value. A research clinic would, of course, be interested in obtaining cases that deal with its particular problem of investigation. In short, the dominant purpose for which the clinic was organized determines the type of problems with which it deals.

Psychoeducational clinics are chiefly concerned with problems relating to school adjustments and subject-matter disabilities. Such problems as the following may come within

the scope of a psychoeducational clinic: studies of mental development, specific disabilities in subject matter, talents, conduct disorders, adjustment of atypical pupils, special curriculums, and age-grade placement. Pupils who have pronounced disabilities in sight or hearing are often referred to the psychoeducational clinic for special placement in school. Pupils who persistently misbehave in school or who cannot learn readily are also commonly referred for examination, diagnosis, and recommendation about a better school adjustment. Customarily, those who are docile and who manage to pass their work are not considered problems for clinical study. In some instances, pupils may be sent to the clinic for assistance in choosing special courses or in making vocational choices. Generally, however, troublemakers and slow learners make up the constituency of the average psychoeducational clinic.

The clinic should, nevertheless, meet a wider need than this. Hildreth,¹ for example, has indicated that the clinic should deal with the following types of children: (1) deviates classified on the basis of learning capacity—the subnormal, the gifted, the children with special talents, capacities, or defects; (2) behavior deviates—nervous, psychopathic, unstable children, the truant, the delinquent, the antisocial, and the speech deviate; (3) physically exceptional pupils in whom the physical defect causes psychological problems—pupils with sensory defects, physical deformities, toxic conditions, endocrine imbalance, epilepsy, and paralysis. This writer also comments that clinics do much remedial work in such school subjects as reading, arithmetic, spelling, and handwriting.

Baker and Traphagan² have divided their behavior rating scale into five major categories, all of which suggest problems with which a clinic might well be concerned. They list the following major factors: (1) health and physical status;

(2) personal and recreational; (3) personality and social; (4) parental and physical factors at home; and (5) home atmosphere and school. With the possible exception of direct health and physical factors, all of these problems are available for diagnosis and remedial action by a psychoclinician. In connection with health and physical factors there often arise many secondary or indirect problems of psychological import. These might also be dealt with in a clinic.

Louitt¹ defines three broad categories of clinical problems: (1) those correlated with abilities—mental deficiency, school retardation, specific disabilities in school subjects, and superiority; (2) primary behavior problems—conduct problems, juvenile delinquency, speech defects, personality problems, psychoneuroses and psychoses; and (3) problems correlated with organic disorders—sensory defects, and neurological and related disabilities. His delimitation of the general field of clinical problems is fairly representative of the opinion of most authorities now working in psychoeducational clinics.

Recent trends in the interests of clinicians are also indicated in the following quotation:

Beginning as an attack on juvenile delinquency, it [the child guidance clinic] has shifted its focus of attention to children in school and home who deviate significantly, but not necessarily in the eyes of the law, from reasonable social expectations, and has broadened its scope to include parents when their problems determine the difficulties of their children. Beginning as an adjunct to the courts, it has developed an independent status, establishing close connections with schools and social agencies, and now moves toward university affiliations."

Consequently there has been a broadening of the types of problems which fall within the province of clinics.

The reasons frequently mentioned for bringing children to clinics vary with locality and with the point of emphasis in

the various clinics. A survey of the types of problems with which clinics in the state of California dealt during a six-year period has been reported.¹ The following problems were mentioned six or more times:

<i>Problems referred</i>	<i>Frequencies</i>
Physical	18
Habit formation and behavior	
Disciplinary behavior	88
Stealing	45
Lying	44
Temper	39
Sex	25
Running away	15
Enuresis	13
Thumb sucking	12
Mischief	6
Personality disorders	
Nervousness	52
Daydreaming	15
Antagonistic attitude	9
Instability	9
Lazy	8
Unreliability	8
Secretiveness	6
Unhappiness	6
Unsocial disposition	6

Other reports, although they have not used exactly the same categories as this one, show striking agreement with this list of problems. Lowrey, Healy, and Ackerson, for example, have supplied evidence to indicate that this list fairly represents the type and the frequency of problems brought to clinics.

If a child's personality develops satisfactorily and if he neither misbehaves nor fails in school, he is quite unlikely ever to be brought to a clinic. Almost up to the present day, little attention has been devoted to positive work with children. The emphasis has been upon remedial and preventive work. No doubt, ignorance of mental hygiene principles has

accounted for the emphasis upon reconstructive and rehabilitative procedures. Teachers, parents, jurists, and religious workers have not hitherto been very well informed about the possibilities of a positive type of clinical work. If the right sort of guidance program were followed, there would be little need for preventive or reconstructive programs for maladjusted children. This phase of the development of guidance clinics is just beginning to appear.

THE CLINIC: ITS STAFF AND TRAINING

The essential personnel of a guidance clinic includes a psychiatrist, a psychologist, and two or three social workers. The psychiatrist often has to give the general medical examinations as well as to conduct the psychiatric interviews. The psychologist usually administers a battery of tests, though sometimes he supplements the work of the psychiatrist by holding interviews with the child to determine the quality and the nature of personality adjustments. The social workers investigate the home and the school backgrounds of the child, and usually incorporate all the findings of the clinic into a well-organized report or case history.

The staff of a psychoeducational clinic may vary with the size of the community, the purpose, and especially the financial support of the enterprise. A well-equipped psychoeducational clinic may include the following: a psychiatrist, a psychologist, a pediatrician, one or more visiting teachers, two or more social workers, the staff of school nurses, students or internes, and clerks. In smaller clinics, of course, the staff is greatly reduced; and some clinics may include other types of workers than those listed above. Oftentimes the smaller clinics have to rely upon part-time assistance by certain types of specialists. Since the psychoeducational clinic is concerned primarily with problems related to the school, all members of the staff have to have a good knowledge of contemporary educational theory and school practices.

In many public school systems the school psychologist has

to carry on many of the functions of a whole psychoeducational clinic. He must diagnose various types of adjustment problems, conduct individual examinations, and formulate suggestions for remedial programs. Sometimes he has to supervise special classes for retarded and atypical children as well. The clinical services that a single person can render are, of course, greatly limited. In certain communities a traveling clinic makes a visit at regular intervals throughout the school year. Usually the clinic consists of a psychiatrist, a psychologist, and a social worker. The teachers who refer problems to this clinic are called in to give advice on the educational aspects of the problems.

Whatever the personnel may be, the staff is usually trained in the following directions: (1) to make a diagnosis of the existing conditions by the method of testing, observation, interviews, and case history, and (2) to give concrete recommendations to the teachers and the parents of the individuals referred to them. Usually they commit themselves to a prognosis or a prediction of how successfully their recommendations will work. The value of the prognosis is, of course, dependent upon the insight of the clinical staff as well as upon the cooperation they obtain from the child, the teachers, the parents, and others who come into contact with the child.

The staff of a clinic has three specific purposes in the examination of a child: (1) to obtain a picture of the total life history and the difficulty of the child; (2) to discover the causative factors behind the behavior problem which occasioned the child's being brought to the clinic; (3) to locate, and if possible to remove, all environmental obstacles which are handicapping the child; (4) to discover and, if possible, to rectify physical and sensory handicaps; and (5) to plan a remedial program. A highly important phase of the work is to discover and to train individuals who may be interested in carrying out the remedial program that is planned by the clinical staff.

The clinic staff is not the sole group of individuals who are

concerned with child guidance. Classroom teachers and school administrators, parents, jurists, and religious workers should become familiar with clinical methods and employ them whenever possible. The principles of mental hygiene and of personality diagnosis have wide application, and many groups of people could guide children more effectively if these principles were more widely known. The notion that clinical techniques are mysterious and that laymen should be kept in ignorance of them is both absurd and incorrect.

Routine clinical procedures. Huey, Wallin, Fernald, Doll, and Louttit have suggested certain fields for inquiry. Their outlines have been rather generally adopted as the routine clinical procedures. What the Binet-Simon scales have been to intelligence testing, these fields of inquiry have been to clinical investigations. Although nearly every clinic has its own record blank and case history outline, yet all of them follow the same general pattern. The ten basic fields of inquiry are the following: ¹

1. Physical examination.
2. Family history.
3. Developmental history.
4. School progress.
5. Evaluation of school work.
6. Practical knowledge.
7. Social history.
8. Economic efficiency.
9. Moral reactions.
10. Psychological (psychometric) tests.

Under physical examination are included the customary medical tests, sensory and neurological examinations, strength tests, height, weight, and vital capacity. Gait, expression, and posture are noted. Since human beings depend so largely upon vision and hearing, special attention is usually given

¹ Cf. W. L. Fernald, "Standardized Fields of Inquiry for Clinical Studies of Borderline Defectives," *Mental Hygiene*, 1 (1917), 211-234.

to testing those senses. In many instances medical specialists, such as the endocrinologist or the neurologist, give examinations of the child.

The mental tests usually include the Stanford revision or the Kuhlmann revision of the Binet-Simon test. Performance tests are often administered in addition to the verbal intelligence test as a part of the diagnostic procedure. Tests from the Pintner-Paterson series have long been used. The particular performance tests chosen by the clinician depend upon the age and development of the child. A number of excellent scales or batteries of performance tests, satisfactory for different mental levels, are available. The Arthur point scale is adapted to the upper levels, and the Merrill-Palmer tests and the Minnesota preschool tests are examples of excellent tests at the lower levels. Witmer, Dearborn, and Healy have been especially active in devising and standardizing individual tests of performance nature. Mental tests have been standardized by Pintner, Haines, *et al.*, on such atypical groups as the deaf, the blind, and children speaking a foreign language.

Many attempts have been made to rate or measure personality traits along the lines used in probing intelligence and academic achievement, but as yet these attempts have not been rewarded with the same degrees of success. Some tests are diagnostic to some extent, but there is much room for improvement in the validity of the tests. It is possible that personality will not lend itself to the types of investigation that have proved so valuable in the area of intelligence and achievement testing. Early attempts along the line of personality testing resulted in the Downey will-temperament test, the Woodworth personality inventory tests, the Rorschach test, and the Pressey cross-out tests. The later tests include Bernreuter's personality inventory and Bell's adjustment inventory. Laird, Symonds, Thurstone, Washburne, Cowan, and Olson have made other significant contributions in this field.

Survey and diagnostic tests and remedial or practice exercises are available in the fundamental subjects. Much attention has been given to the fields of reading and arithmetic. Since many cases are referred to the clinic because of school retardation, both the educational achievement and the educational history of the individual are extremely important.

In the field of aptitude testing considerable work has been done, but as yet the predictive value of aptitude tests has not been well established. In many instances aptitude tests are fairly dependable as to what the individual's potentialities or aptitudes are, but they have not been developed to the point that definite advice can be based on the test results.

The psychiatric examination is largely a form of personal interview. A skilled interviewer is able to win the confidence of the subject and obtain valuable information in fixing the causes of the maladjustment. The psychiatrist, however, frequently wants and demands the results of psychometric tests. In the sphere of mental maladjustments, behavior problems, personality disorders, or physical malfunctionings he is frequently of the greatest assistance.

The preparation of personal, social, and developmental histories and the making of home visits are usually performed by the social workers, the visiting teacher, or the school nurse. The following phases of the individual's history should be included in the investigation: developmental history-- birth, infancy, sex problems, health, education, vocation, and speech; family and home history --parents, siblings, and other relatives, physical condition of the home, and the neighborhood; and the behavior history---personality and conduct reactions, delinquencies, social and emotional history.

In summary, a child referred to a clinic would be subjected to the following procedure: (1) the history -- past and present, personal, family, health, educational, and emotional; (2) examinations- mental, educational, physical, speech, social, emotional, and psychiatric.

All information pertinent to the case is contributed by the

individuals who collect it. This information is pooled, then discussed and evaluated, and a diagnosis is reached. Upon the diagnosis depends the prognosis and the setting up of a program of training for the individual. In a great majority of cases the clinic does not conduct, nor does it supervise, the remedial program. As a consequence many suggested programs are never carried out nor does improvement follow.

The child guidance conference. Only a few school systems at this time feel that they can afford to operate a child guidance or psychoeducational clinic. And few are the teachers and principals who are properly educated and temperamentally suited for expert dealing with personality maladjustments and conduct disorders. When faced with this dilemma, it is possible for practically every town and county to set up an administrative technique, the child guidance conference, for dealing with special problems, and with little or no additional cost. This technique has been described by Dr. Norman Fenton.¹ In various forms this type of conference is in operation in hundreds of communities and is especially popular in California.

A typical setup for a city of medium size is about as follows. The conference staff is composed of a director (usually an assistant superintendent or principal) to administer the work along with his other duties, a member of the research department to give psychological examinations, an elementary school supervisor to trace the school histories of the children studied, a school physician to give the physical examinations, a school nurse to trace the health history of each case, a representative of the county probation office to study juvenile court records when these are included, and three teachers who are especially suited to this work to develop the social and educational histories of the children and their families.

A wide variety of information is collected on each case.

The reports are given and discussed at staff meetings, where the responsibility for treatment is fixed and a remedial program is outlined. Teachers and principals directly concerned with the cases are invited to the staff meetings. It is necessary to show the teacher or parent the difficulty and to aid him in checking on the child's progress at regular intervals. Follow-up reports are made from time to time. Briefly, these conferences involve nothing new except the procedure for doing systematically what is usually done haphazardly. One of the chief values of this type of conference is the instruction given the teacher and parent in the meaning and application of mental hygiene and child growth and development in the classroom and home.

TYPICAL BRIEF REPORTS MADE BY ONE PSYCHOLOGIST ON CASES STUDIED 1

	-3	-2	-1	0	+1	+2
<i>Hereditary</i>				X		
<i>Physical</i>			X			
<i>Mental</i>			X			
<i>Family</i>	X					
<i>Economic Culture</i>	X					
<i>Social</i>	X					
<i>Educational Training</i>		X				

RECORD SHEET

Name G. J.

Born May 4,

Grade 7

Behavior Problems A surly, fidgety pupil who has little respect or consideration for others' rights

Brief Description of Facts

Hereditary Parents both healthy. No serious illnesses evident. Mother very much overweight.

Physical Usual childhood diseases. Ears, heart normal. Eyes somewhat weak. Teeth neglected. Not too clean in personal appearance. Average height and weight.

Mental Henmon-Nelson IQ 92. School achievement has been poor.

Family Mother and father alcoholics. Father took up drinking after marriage. Mother shuffles, runs around with other men. Child unwanted because an illegitimate.

Economic Culture Mother and family on relief. Parents separated. No family interest in outside activities. Boy has readily admitted that he has done no reading.

Social Usually travels with older boys who are bad. Is too rough for those at his own grade level.

Educational Training Very much retarded. His writing is practically illegible. Spelling is terrible. Not impossible for him to get along scholastically but he never cared. A 'D' student.

Brief Descriptive Diagnosis

His attitude in class is probably due to the fact that he has been plainly shown at home that he is unwanted. Another brother gets all the attention.

Treatment Plan

He needs more understanding from teachers and classmates. This must be encouraged.

	-3	-2	-1	0	+1	+2	+3
<i>Hereditary</i>				×			
<i>Physical</i>					×		
<i>Mental</i>			×				
<i>Family</i>	×						
<i>Econ.-Cult</i>	×						
<i>Social</i>	×						
<i>Educ.-Train</i>			>				

RECORD SHEET

Name F R

Born November 20, 1927,

Age 13

Grade 7

Behavior Problems A truant and class problem. In Junior High was placed in slow section, soon became gang leader.

Brief Description of Facts

Hereditary Parents of normal health with no physical defects.

Physical Condition good. Eyes ears and heart normal. Height and weight normal. Teeth poor. Hardly any school absence because of health.

Mental Henning-Nelson I.Q. 79. Scholastic achievement almost good. Failed in fifth grade.

Family Parents shiftless and very untidy. Income small hence large family is barely existing. Older children show no interest in improving home condition.

Intimate Culture None. Boy reads a few comic pulp magazines. Goes to movies when he can sneak in.

Social Prowling the streets at night with his gang is a regular routine. Snickers at teachers on the street. Recently in trouble because of some property damage.

Educational Training In the one system all his school life. Seems able to get things in class when he wants to. This generally when red appears on the report card.

Brief Descriptive Diagnosis

Lack of discipline at home. Is allowed to go and come as he pleases. Has enough boldness to influence other boys.

Treatment Plan

Has been placed in 'high-rating' class. This association with intellectual superiors seems to have toned him down considerably.

	-3	-2	-1	0	+1	+2	+3
<i>Hereditary</i>			×				
<i>Physical</i>				×			
<i>Mental</i>				×			
<i>Family</i>	×						
<i>Econ-Cult</i>	×						
<i>Social</i>		×					
<i>Indu-Train</i>		×					

RECORD SHEET

Name M W

Born August 27, 1923,

Age 16

Grade 9

Behavior Problems A cynical attitude toward school and the classroom. This sometimes makes her difficult to handle, and also influences the attitude of several classmates.

Brief Description of Facts

Hereditary Health of parents good, although both are confirmed alcoholics. No tendency toward serious ailments evident.

Physical Normal height. Weight a little above normal. Eyes weak necessitating glasses. Little school absence because of illness.

Mental Henmon-Nelson I Q 105. She is a "C" student in school.

Family Father once in jail for robbery. Mother entertains men and partly lives on what they give her. Six children. Squalid surroundings. No conveniences.

Economic Culture Father deserted six years ago. Family on W.P.A. Only thing which can be called a cultural influence is the movies although the lurid type of movies is preferred. Home near to trucks.

Social Spends most evenings at home in these suggestive surroundings. Sometimes with another girl of bad shady reputation. No group contacts.

Instructional Training Has been very erratic. Family has moved continually where landlord has become insistent about rent.

Brief Descriptive Diagnosis

The trouble here is plainly in the surroundings. She has in her formative years, seen too much of the "rawness" of life.

Treatment Plan

To improve the home conditions, and to try to encourage better group contacts for the girl.

Chapter 18

Child Development through Education

Observation of the young child as he learns to write, of the Major League player as he winds up for the pitch, or of the emotional leader as he brings his chorus to the climax of an evening's performance, gives evidence of the same quality of human behavior. Whatever the situation, each individual reacts as an integrated totality to every experience. It is impossible to consider any of the above activities as involving only hand and arm movements. The whole body reacts to the confronting situation in an amazingly complex coordination of movement.

CHILD DEVELOPMENT, A UNITARY PROCESS

It is awareness of the complex unity of each individual's response within his environment that sets the pattern for the modern school. To consider only the academic advancement of the child is to develop a sterile school program. To add provision for physical development is to add but little, for the bases of the program have not been altered. All research in the fields of biological science, psychology, and allied areas points indubitably to the unitary organism. Educators have begun to think in terms of the growth of the whole child rather than of his physical, mental, emotional, and social development as distinct categories of behavior to be developed at different periods by various programs.

Organismic psychology—that particular branch of the

science of human behavior which stresses the unitary quality of any individual's reaction—has dominated educational theory in progressive circles for more than a decade. Its emphasis upon child development as an expanding unity has been all to the good, as it has helped to eradicate the earlier emphasis upon development of various separate phases of the individual personality. Unfortunately, almost all movements in new directions swing out to extremes of opposition to the view previously held. This has been true in the application of the theories of organismic psychology to educational practice. Progressive leaders have sometimes leaned too far forward in expressing unity of the organism by denying separate functions.

In order to express clearly the function of the modern school, attention here has been leveled at the various phases of individual development with which the school must be concerned—physical growth, language development, emotional growth, social development. By examining a particular phase of behavior minutely, it is possible to place it more accurately in position with concomitant parts of the total behavior pattern; just as it is often possible to diagnose more correctly the problems of normal children from consideration of similar, but distorted, behavior difficulties of abnormal children. The study of various aspects of the total developing pattern of an individual life provides the needed insight to enhance the total growth of the child.

AN EXPANDING CONCEPT OF MODERN EDUCATION

Having in mind the various phases of child development and the means of more readily ensuring that growth, it is necessary to look again at the total program of the modern school. Child development proceeds as an intricately complex whole. It is but the statement of a common observation to remark that many and various agencies play upon this developing whole. Teachers have felt the weight of their tremendous responsibilities in guiding child lives into socially

desirable directions. Yet the school is not, by any means, the most important medium of education.

Children are moved in many directions by a shifting environment. Some religious groups have realized the crucial importance of the early years of a child's life, before school age, and have insisted upon rigorous indoctrination in those highly formative years. The old proverb, "As the twig is bent, so is the tree inclined," is evidence that many generations of parents and students of child development have been aware of the tremendous importance of educative experience in the years of infancy and early childhood. Father and mother, oftentimes unwittingly, determine the child to be caustic, whining, pleasant, or antisocial-- all because the baby is primarily a mimic. He likes to do what his elders do. The only child develops according to the pattern prescribed by his elders. The child who is one among many develops in the give and take of social intercourse. When the two meet on the first day of formal schooling there is vast difference in their reactions. So it is to a greater or smaller degree with all children, for each child's environment has made him different from all others.

Soon after he begins to walk, the little child extends his horizon beyond his home into the homes of near-by playmates and the next-door garden. His parents, more often than not, introduce him to the atmosphere of a formal religious agency. At home he comes to know outsiders who serve his family--the milkman, the delivery boy, the newsboy. As he matures a little, the common consent of the community determines that he shall be sent to school. Although the school itself constitutes only a small part of a total impinging environment, society expects it to produce the most desirable and lasting impression upon the child.

The school, although fully conscious of its inadequacy, cannot refrain from issuing a challenge to all those responsible for preschool guidance in child development. The issue at stake is best illustrated by the reported reply of Colonel

Parker to an anxious mother of a five-year-old who inquired about the proper age for beginning her child's education. Colonel Parker's advice to the woman was to the effect that she should hurry home, for she had missed more than five of the most important years of the child's life.

Although we know little about prenatal "education" and what situations best promote it, we believe nevertheless in providing a comfortable and hygienic environment for the mother before her baby is born. Psychologists are certain, however, that from the moment of birth the kind of experience that the child has is of incalculable importance. At the other end of the life scale, scientists are pointing out that education ceases only with an individual's last breath. Old age creeps upon those who are no longer physically, mentally, and emotionally alert and active; but the individual who cultivates his powers continually enlarges them.

Viewed from one angle the picture is delightful—potentialities for human development are enlarged to such proportions as to become at present unimaginable, if an environment can be provided which will enable a given individual to expand and enlarge his powers without cessation. Viewed from another angle the picture is depressing—how is it possible to provide the necessary environment so that an individual may grow ceaselessly? It is this question which challenges the leaders of progressive schools. Leaders in modern education recognize the tremendous influence of the impinging environment upon the child and recognize further the influence of the child upon his environment, both physical and social.

Each child is born with potentialities for action, with a certain ability to adjust to his environment—determined by his inheritance, changeable only as it is developed or remains undeveloped. It is the function of the progressive school to provide an environment in which the child may make maximum use of his ability to adjust to his environment. In other words the school must provide an environment which will challenge a child to utilize his intellectual insight to its fullest extent.

The school must provide for the growth of the child in *socially desirable directions*. It is not enough that growth of the individual shall be ensured; growth must be secured for the child as a member of a social group composed of other individuals who are growing increasingly capable of reaching, independently, intelligent decisions to be worked into patterns of activity.

It becomes apparent that the progressive school does not advocate a kind of guidance to be measured merely by the degree to which it enables children to follow only their wishes from moment to moment, nor to work out useful plans for individual activity. Rather, the progressive school is concerned with the problem of helping children develop for themselves a wholesome view toward experience, enabling them to grow in wisdom of choices, in social responsibility, in happy self-realization, in freedom that comes from intelligent recognition of restrictions. Such a problem is challenging but difficult to solve.

The progressive school is *child centered*. But just as it is child centered it is also *social centered*, for it envisions the child in a social group, at first small, then larger in scope, then wider in age span and in accumulated interests. It sees the child both as an immature and as a mature member of an adult group, at first small, but finally developing world horizons. The progressive school is *life centered*. It widens its scope of activity and interest as the life of the child grows out to meet the world. The progressive school is *purpose centered*. It enlarges its purposes as the growing intelligence of the child leads out to larger problems into a grown-up world.

EXTENSIONS OF THE MODERN EDUCATION PROGRAM ESSENTIAL FOR CHILD DEVELOPMENT

The progressive school must open the vast reaches of experience for each child. At every stage of development it would have each child say:

Up into the cherry tree
 Who should climb but little me!
 I held the trunk with both my hands
 And looked abroad on foreign lands.

I saw the next door garden lie,
 Adorned with flowers, before my eye,
 And many pleasant places more
 That I had never seen before.¹

The cherry tree must be a growing one, so that each climbing would mean the glimpse of a wider horizon.

I. EXTENSION OF THE SCHOOL AGE

The nursery school. These aims are being achieved in the progressive school through certain conditions of living, simple in themselves yet tremendously significant in the potentialities they contain. Educators, realizing the responsibility of formal education for aiding the child in his development and assisting him to reasonable maturity, have indicated extension of time in school as the first desirable prerequisite. Society is no longer secure in the belief that individuals without knowledge of child psychology are competent to lead the child from his birth to his sixth year. The nursery school is, perhaps, the most valuable contribution to the progressive education movement.

Two groups of theorists divide the schools into two general types: the one providing the child pleasant hours for busy activity in a child-sized world, the other providing him with the same joys working with materials and tools he can handle while at the same time he lives in a more or less normal home environment. Yet the aims of the two groups are closely allied. Children living together, playing, eating, resting, sharing household tasks, learn the basic relationships of social living, the give and take of every enterprise which necessitates the activity of more than one individual.

¹ R. L. Stevenson, "Foreign Lands," *A Child's Garden of Verse*, London, Longmans, 1885.

Only the hearer, for example, can know the complete satisfaction in little Judy's voice as she talked to her neighbor in the back-yard garden. She had just started to nursery school a few weeks before. "You live," she said firmly, "next to my house on *this* side, Mrs. Doherty lives next to my house on the *other* side." Judy was already learning to put people in their external relation to one another. Soon she will be troubling herself with deeper problems of human relationship. At any rate the school has already made her aware of her next-door garden and the people in it.

An outstanding educator remarked the other day, in an unguarded moment, that perhaps the function of the school at any level is not to provide each child with certain academic learnings, but to give him something much more necessary for successful living. He failed to indicate exactly what should be substituted for academic learning. The nursery school is indicating that substitution in terms of happy, successful, social living. There are certain factors in a child's life which can be supplied by a nursery school but which it is impossible for a home to give him:

1 The nursery school gives a child the experience of leading an independent successful life away from the familiar surroundings of home and away from the protection of his mother's presence .

2 . . . Social learnings of great importance which cannot possibly be developed in any other way are possible in the company of other children of restricted age range ¹

By extending school time span into the so-called preschool years, children learn to share tasks with one another. They carry their plates and their food into the dining room, they eat together in happy companionship. They take paper and paints and happily do their finger painting, some earnestly twisting their faces and sticking out their tongues, others talking together about their designs. The nursery school pro-

vides an environment in which babes may make a good beginning in the long process of becoming human.

The junior college. In the same manner on a more complex level the junior college extends the process of socialization. The junior college must not be looked upon as an institution which primarily fosters advancement in academic learning to prepare for admittance to professional schools. Rather, the junior college is developing the specific function of enlarging the individual's possibilities for further growth by providing, in general, further study (above the high school level) in mediums of communication, in intellectual study in a chosen area (mathematics, or science, or sociology, for example), in leisure time pursuits of both solitary and social character, and in a physical exercise and health program. The additional two years, bringing increasing maturity to youth, rounds out his program for social adequacy.

The purpose of the program at Stephens College, although only for women, gives indication of the trend of the progressive movement on the college level. The purpose is to give the student:

First, an intimate contact with those cultural traditions of the race that are most essential for creating the atmosphere that she desires in her own home.

Second, a social outlook that will give her an intelligent grasp of the problems of the community and of the larger social problems of her own day.

Third, a mastery of the basic laws of hygiene that affect her own life and the laws of sanitation and health that affect the physical well-being of her family and of her community.

Fourth, a sufficient knowledge of vocational opportunity to provide the possibility of self-dependence. The major economic emphasis, however, should be upon the principle of consumption rather than upon the techniques of production.¹

The new junior college grants large place to "cultural traditions," but it also grants place to those activities which will enable young people to live together with more under-

standing and more tolerance. It helps them to be more aware of the beauty of the world; to see loveliness in the mist:

The lights
Tonight
Are madonnas
Of the mist
With halos
Round
Their heads.¹

The boarding school. The new school, realizing the desirability of giving boys and girls an appreciation of the meaning of social relationships, extends time in school not only in years but also in a lengthened school day. If children mature more readily in social situations—all evidence seems to corroborate the accuracy of the conditional statement—then the longer school day will contribute more largely to that maturation. In response to the new felt need there are coming into being various types of city and country day schools with modified boarding school arrangements.

During the lengthened school day there is adequate time for the building of recreational phases of education as an integral part of the total program. But, more important, there is opportunity for children to live a large portion of each day together, sharing the give and take of social intercourse not only in the actual progress of the so-called schoolwork, but also during rest periods, luncheon, and a play schedule. The school day that extends from early morning to evening provides greater opportunity for a complete unification of work and play, so that each child under the stimulus of a shared motive lives joyously with his fellows, never becoming aware of the distinction his elders draw between work and leisure.

A still smaller number of schools are becoming boarding schools in the traditional meaning of the term. Here children

live together within the institution, going home only for vacation periods. The advantages of the boarding school plan are apparent. Here children do not face the daily disintegrating effect of moving from one environment to another. They become members of a cohesive group bound by ties of shared experiences and interests—they become socially minded on their own level and gradually move from consideration of their own standards to those set up in the world which surrounds them.

The advantages of the boarding school are somewhat indefinable, yet the result is obvious in the conduct of its graduates. America is somewhat lacking in tradition in this field of educative experience; but the influence of the great private schools of England is a case in point. England's great socially minded statesmen come from Eton, Harrow, and Rugby—where after school hours they learned the give and take of human intercourse, the necessary sportsmanship of the cricket field, the ideals for which their institutions stand. It is the long, close living together which gives any one group singleness of outlook.

2. EXTENSION OF THE CURRICULUM

The longer time span in school offers, primarily, greater opportunity for socializing the child. Extension of the curriculum beyond the traditional academic subjects offers opportunity for proportionally greater self-realization. Educators have been discussing for several decades the advisability of enlarging the curriculum. No one imagines any more that a school would function without some type of program of physical exercise and some attention to hygiene. Almost the same security is given to the place of music in the curriculum. Yet these inclusions do not form a new pattern of school program which will inevitably enhance the possibility of self-realization for each child.

In the progressive school the curriculum must be wide enough to supply means and materials to further the development of child interests and wide enough to supply means

and materials to develop new interests. So the curriculum in the new school will include instruction in reading, for, old-fashioned as it may be, reading is basic to growth in society. It is the skill which, more than any other, will open the way to a child's knowledge of his cultural heritage and his appreciation of it. The curriculum must include those other basic skills of writing and arithmetic. But modern life is vast, busy, complex; economic situations change almost overnight; and it is impossible to gauge accurately the needs of the child when he comes to maturity in an adult world.

Practical arts. To enable him to realize himself to the fullest degree, to feel his own potentialities and to feel them satisfied, the new school must provide opportunity, also, for experience in the fields of the practical arts. No one would hope that the high school, or even the junior college, would aim to turn out graduates skilled in the practice of various mechanical or homemaking arts- future demand is too unpredictable and unstable. Yet it is entirely reasonable to hope that pupils with opportunity to study household arts and mechanical arts will acquire an ease in handling tools that is much to be desired; and, far more important, that they will acquire an understanding of the skill involved in various operations, that they will realize the basic principles involved, that they will broaden their own horizons and deepen their own interests. The modern school must keep ever before it the challenge that self-realization comes through appreciation of the work of one's fellows as well as through one's own work.

In early years of school life mechanical arts and household arts cannot be listed as study possibilities. Lane lists the early manipulations leading to these subjects as *construction*. "This is an awkward term for manipulative experience of all kinds which lead to making something of use . . . work with tools to enlarge experience and enhance and illumine meanings." ¹ Perhaps there is a play house to build, or a miniature com-

munity to get under way, or a store to set up and operate. In any event the construction work provides a multitude of experiences—hammering, sawing, measuring, planning, conferring, sharing, working together—that promote all the qualities essential to social living and enable the individual child to realize his own potentialities in contributing to the group enterprise.

Creative activities. Beyond this the modern school must provide in its curriculum¹ opportunity for dramatic play, nature study, advance in the language arts, and creative expression. The child enlarges his own life as he enters imaginatively into the lives of others in dramatic expression. For the moment, he becomes someone else and almost magically adds the experience, vicariously lived, to the store of his own past experience. To love the world in which he lives the child must see that world. He must learn to observe its changes; he must know the objects that give it beauty and variety; he must love its living things. To communicate his experience he needs advancement in the language arts and he will appreciate much of what he can discover of the vast store that other individuals know. As the child accumulates his experiences he wishes to do something about them. He needs avenues of expression. Creative expression "represents those experiences in which one strives to express himself through any appropriate medium—drawing, painting, modeling in clay, music, rhythms, dances, poetry, prose, and so on through many categories."²

Through these activities the modern school seeks to enable children to build for themselves full and vigorous lives. The initial paragraphs of the present chapter give the key to the problem of curriculum building. Kilpatrick puts the problem and its answer succinctly:

We begin . . . with life as an on going and developing interaction between the organism and its environment. For us here there are two sides to the process. on the one hand, a child growing

¹ *Ibid*, pp. 60-61.

² *Ibid*, pp. 60-61.

up; on the other, the surrounding group and cultural life amid which the child thus develops and in which he is increasingly to share. We who are interested from both angles wish, as regards the child, that as he lives and grows he may live fully and happily; and, in behalf of the group, that he may ever share more responsibly and helpfully in carrying forward the common social life.

The curriculum becomes then all of the child's life for which the school carries responsibility. . . . The task of the curriculum is to help each child so to live and grow that these several aims may be progressively realized.

From our organismic conception the unit element of such a curriculum becomes, not a specified lesson of subject matter to be learned, as was formerly held, but a person facing an actual situation. That is, the unit is an actual instance of child living . . . this, for the teacher, to be educatively conceived and educatively directed.¹

Civic responsibilities. The expanded conception of the curriculum as the child's school life sets aside the old idea of curriculum as subjects to be taught and emphasizes the living quality of each experience. The dynamic of this view of the curriculum can be expressed completely only as children live in the new school, for the curriculum is not superimposed upon the child. Self-realization is the desired outcome. "To achieve self-realization, however, there must be self-acting. Self-realization is not only of the self but by the self as well. Only as the child puts forth endeavor and assumes responsibility for his conduct can he hope to realize his destiny."² By providing "those activities which give promise of illustrating and enriching the underlying fundamental concepts of social life," the new school more nearly ensures the child a developing social consciousness which will lead him to more perfect self-realization.

3. EXTENSION OF TIME UNITS

Extension of time units is so closely tied with the new concept of the curriculum that even for discussion purposes the

separation is obviously artificial. A curriculum that is "a person facing an actual situation" cannot be accommodated in the old-time schedule with fifteen minutes for opening exercises, one-half hour for arithmetic, the next thirty minutes for reading, and so on. Nor can that curriculum be satisfied by an external integrative device which links periods together by employing the same topic of discussion for all periods, such as a day devoted to reading an Indian story, problems regarding size of bark strips for an ideal hut and the length of arrows in proportion to the bow, as well as the following of adventures of the Indian Twins in the reader.

Extended work periods. The problem can be met only by providing large units of time so that youngsters may work ahead toward the goals that they have set for themselves uninterrupted by a time schedule which a teacher may find sacred. Twelve-year-olds centering the work of the year around the building of a city may find no occasion to read for several days, may find no occasion for arithmetical processes for long hours at a stretch, may not ever come up to national norms on the spelling chart. The astonishing use which they do make of the tools of learning, however, is worth any departure from tradition. As they read to learn how to take the next step in construction, as they consult with the whole instructional staff, or carpenters, or electricians whom they know, as they figure lengths of lumber, of pipe, of wiring, as they make plans and charts, they may be far from the academic norm or arbitrary standard, but the chances are that the distance measured in three or four dimensions instead of one will place them above a mythical average.

It is impossible to imagine a construction project such as this proceeding toward success with small units of time each day devoted to measuring, to cutting, to reading, to drawing blueprints. The only way that the complex activity may succeed is by allowing children freedom to plan their work and execute the plan. Some years ago William Burnham wrote that the essentials to mental health are "a task, a plan, and

freedom." The requirements do not change with the passing of time. Burnham's list is of primary importance as a motto to guide the building of a program for the new school. Any child to be happy must have a job to do which he accepts wholeheartedly as his; he must clearly envision a way toward its accomplishment; he must have freedom to work out the plan he has provided for himself.

Flexible programs. The old program which allowed only the teacher freedom to choose the task and to make the plan kept the child from any real share in the activity. It could not give him stimulation, an urge for accomplishment, and a view of a program for achievement. Curriculum expansion should move steadily from units devoted to community relationships, in which the four-year-old learns his "next-door" relationships and comes to sense his responsibility in that connection, to other units devoted to international community relationships, looked at searchingly by the high school child who has lived through vigorous and intellectually active years of searching out the basic facts of social relationships on all levels. The six-year-olds may build a post office or a grocery store; the eight-year-olds may erect an Indian village; the twelve-year-olds may struggle with the construction of a model city; while the eighteen-year-olds search for prewar boundary lines in old maps, hear speeches by various "radical" leaders, talk to the foreign born in the community, search peace treaties to find reasons for new embroilments. In any case the activity has the same quality.

The modern school should provide an environment in which the child may, on his own level, undertake the solution to a problem which he accepts as real and which permits him to plan and work with his fellows to reach a common solution. The lengthening of short periods into long ones provides the vehicle for the advance of the new curriculum, enabling youngsters to see their activities in terms of long-time purposes.

It is a mistake to assume that modern education at its

best allows children complete freedom to follow the whim of the moment. Such a program cannot provide the child with the means for growth and maturation.

It would hardly be an exaggeration to say that the purpose of sound education is precisely to emancipate the pupil from dependence on immediate interests. A person cannot remain a baby all his life. He must learn to consider the bearings or consequences of what he does and to assume responsibility accordingly. This is the kind of thing we mean when we speak of character and self-discipline—and of freedom, too. . . . In other words, the doctrine of interest is not to be construed as a justification for prolonging the period of infancy as much as possible. The basic concern of this doctrine is rather to make education a process centering on the continuous reconstruction of experience in the direction of a total pattern which derives its warrant, not from externally imposed authority, but from the exercise of the pupil's own intelligence.¹

4. EXTENSION OF SCHOOL ENVIRONMENT BEYOND INSTITUTIONAL WALLS

Just as the new school has extended work periods and provided for greater flexibility of study schedules, so has it extended the school environment. As long as the school time was primarily devoted to the learning of subject matter and the acquiring of basic skills, the four walls of the school encompassed quite enough space for the development of the program with the use of the gravel schoolyard for fifteen-minute recess periods, one in the morning and one in the afternoon.

Laboratory expansion. When the school curriculum is expanded to include almost any possible life experience, the schoolhouse can become the place for laboratory work of a technical sort, for the setting up of conditions comparable to those on the outside, for undertaking research investigations, for conference arrangements between pupils and between pupils and teachers. When the solutions to problems require

information not available in the immediate school environment, plans are immediately under way to secure the necessary information. Such plans might include a journey by one or two class members to an institution, a factory, or a farm in order that the entire group might have a report of observations. A class concerned with problems of local government might find several trips necessary to see the operation of government in various city offices. A group considering foreign minorities in city government might find trips to foreign sections of the city necessary and might well stumble upon an interest in housing as they sought solutions to the original problem.

Generating interests. Indeed, trips are more often planned to generate interest rather than to find specific answers to already formulated questions. Small children trooping to the zoo are engaged in a tremendously educative experience, if they have gone for no other reason than "to see"—to see anything at all. And how wonderful it is to set foot on a great ocean liner and see its decks, and cabins, and recreation centers, its dining rooms and kitchens, its engine rooms and chart house! How thrilling to go into the state capitol and perhaps sit in the governor's chair! A piece of metal never looks the same to a child after he has seen great smelting furnaces as it did before. The simple "click" which turns off the radio is not so simple after the child has seen the broadcasting studio; he hesitates before he decides that he does not like a program. Life takes on the quality of a great adventure as the child expands his knowledge.

Trips undertaken in holiday atmosphere often determine the formation of new and abiding interests. From them often come eager questions worth much to the group to answer. This contribution of progressive education widens horizons, promotes understanding, deepens appreciations. For example, the city child sees his glass of milk with different eyes after he has gone to the farm to see the cow and her new calf. Quite conceivably the experience initiates a whole series of questions

about farms and farm animals or about milk production and its ultimate consumption. New experiences pique the curiosity, challenge the imagination, push the learner further into the realm of the unknown. No scientist involved in the deepest research of the day is more in earnest than the child who really wants to know what happens to the milk he drinks from the time it fills the farmer's pail until the milkman puts it on the front doorstep early in the morning.

Unification of the environment. The limits of the new school stretch out to include homes, whole communities, the areas that service those communities, the four corners of the world--as they can be brought in through reading, through lectures, through museum trips and movies. As far as is humanly possible, the world is the back yard of the modern school. The child goes into it free and alert, ready to find out. It is this large environment that enriches the bare concepts that books and pictures give. It gives point to the abstractions with which the school must deal.

Sometimes teachers have gone off too excitedly to show the world to their young charges and have given them nothing but a desire for amusement, but even including those mistaken efforts the richer experience of the new school makes education a thrilling adventure and school a delightful place to be in.

5. EXTENSION OF THE GUIDANCE FUNCTION OF TEACHERS

This discussion thus far has centered about changes in curriculum and organization which make for fuller development of the potentialities of each child. More important than these changes is the extension of the guidance functions of teachers in the new school. Teachers in the new school are not hearers of lessons, nor are they subject matter specialists in the narrow meaning of the term. It is assumed that these teachers know at least one subject matter area sufficiently well to feel completely at home in it. The knowledge does not, however, make it obligatory that the children under their tutelage acquire the same knowledge in the same way. Rather, the teachers

in the new school will join hands and by working together send Jackie and Betty scurrying hither and yon gathering materials and recording observations to solve their problems.

Guidance technique. In a progressive school the guidance functions of teachers are immeasurably complex. The aim is to secure the full development of the child in socially desirable directions. This cannot be effectively accomplished when children are placed in large groups and have the same lesson presented to each of them. In the first place, the wide range of experiential background makes even the same lesson produce quite distinct results when presented to thirty children. Differences in mental age, emotional outlook, and acquired interests still further complicate the probability of determining results of the process. The teacher in the new school must be a sufficiently wise psychologist to take Johnnie and Betty at their different personality levels and so interest them in plans of procedure that their subsequent absorption in their task carries them toward more desirable patterns of activity.

A young teacher recently commented upon her method of procedure with a clothing class: "I am going to let the girls start out making garments for themselves. When one of them needs to know how to make a bound buttonhole I shall show her. When another needs to stitch on the sewing machine, we will practice on a sample until she knows how and then we will stitch up the garment. *We are not going to make any samples ahead of time.*" By implication that teacher was allying herself with that wing of progressive educators whose slogan is, "Teach skills when there is felt need."

There is much to be said for such a method of procedure. It means quite definitely that guidance must be individual in character, applied at just the moment of need. The girl who learns to make the bound buttonhole when she is ready for the finishing of her dress has learned at the moment when she is most attentive. She has learned a new operation that can be used in many experiences in the future. In this case the

particular skill is to be acquired as a portion of a larger on-going activity.

A young music teacher discussed his experience with the same method of learning in a different context. He had struggled for two years with a girl who was learning to play the violin. She wanted to play, she undoubtedly had talent, but she lacked the driving motive to practice to achieve a greater degree of perfection. One morning he explained that in a few weeks his pupils were to perform before a body of music teachers from surrounding towns. He asked whether the young girl violinist in question and a boy would enjoy playing a violin duet—a feat difficult for much more accomplished players. The pair enthusiastically agreed. The teacher was astonished two weeks later at the improvement made by the young girl. She had acquired an ease and surety which she had never before exhibited. The motive of the audience situation moved her rapidly over a “learning plateau.”

These are isolated examples of the guidance functions of the teacher in the new school. Modern education has realized the need of aiding the child in acquiring a needed skill at the moment the need is felt. It has also recognized the need of supplying adequate motivation to hasten learning which seems desirable. It is not enough to say that the child must follow his own interests. At his immature level he has no substitute for the judgment and sound guidance of the mature individual.

A little four-year-old had grown restless by enforced play at home while the family was quarantined because of contagious disease. Her father had been living away from home for some weeks and she had had none of his company. Suddenly one morning she stopped her play, came dashing into the house, and cried, “I wish my Daddy would come to make me behave!” She was decidedly tired of following her own choices.

Selection of activities The artist-teacher in the modern school is able to select activities which have such leading-on qualities that the children constantly see new accomplish-

ments to be achieved, more information to be acquired, something unsuspected to talk over. Out of the activity, then, must come all the hoped-for social attitudes. The teacher in the modern school is concerned that children shall face situations which are challenging, which lead them to progressively more intelligent ways of behaving.

Such a challenge for the teacher means for him a reorientation of his point of view toward the subject which he teaches. If he has centered his own studies about literature, his pupils will undoubtedly start from that center. In discovering the attitudes that authors, and the characters they create, adopt toward the problems of living pupils begin to shape their own attitudes about the same problems. One child goes off at a tangent trying to find out why community governments are set up as they are. Another child wants to know what modern hygiene can do for backward people. Another becomes interested in the beginnings of some particular custom or way of behaving.

Children often start to find out about some already familiar topic and lose themselves in a fascinating maze of things they had never before imagined. Or they set out to learn about a thrilling new world, far from the things they know, and are amazed at the similarities they find in their own surroundings. It makes but little difference whether six-year-olds study farm life, city home life, Indian life, or community helpers. Whatever the choice of the specific activities may be, the child should have the opportunity to see something of the interdependence in family life, the essential character of shared responsibility for successful group life, the similarity of basic thoughts and feelings the world over, the necessity for having each individual job done well in order that unified living may go forward. These principles, once learned, take the child well on his way toward maturity in outlook and sane living. The choice of material is wide and unconfined.

The directions of study are almost infinite. The teacher's function expands as his pupils continue their study, not as an

authority to whom they must look for the solutions to their problems but as the guide who helps them to find other authorities by bringing them in first-hand contact with community relations, by presenting source materials, or by leading them to colleagues who are specialists in the field of a particular child's interest. In suggesting activities to be undertaken and problems to be solved, in pointing out avenues for solution, in setting up drill situations for aiding in the acquisition of desired skills, in providing opportunity for group co-operation, in aiding social adjustment, in fostering individual research and intellectual growth, the teacher in the modern school achieves fullest development for himself and for his pupils. The educational task is complete when from the schools come forth bright-eyed children eager for the adventure of the future.

QUESTIONS AND EXERCISES

1. Cite evidence in preceding chapters to support the suggestion that child development must be viewed as a unitary process.
2. To what extent do the concepts of child nature and child behavior emphasized through your text point to the need for an ever-expanding concept of modern education?
3. Basing your conclusions upon information gained in this course, develop in two or three concise paragraphs your concept of the functions of modern education.
4. From a psychological point of view, to what extent are programs of education as you know them organized to meet the nature and needs of the child during the course of his development?
5. What are some of the specific psychological problems presented in previous chapters which would demand solution in any expansion program of modern education?
6. To what extent would extension of the school age aid in the solution of one or more of the problems?
7. By a series of illustrations, show in what respects and how an extension of the curriculum might help to solve some of the problems incident to a child development program.
8. Suggest and defend psychologically an administrative type of organization that you feel would tend to accelerate child development.

9. What desirable outcomes would you expect to have result from extending the school environment beyond the institutional walls? What evidence can you cite in previous chapters to show that an extension of this type would be desirable?
10. Basing your statements upon accepted psychological principles, show to what extent and in what direction the guidance functions of teachers must be increased if the aims and ideals of modern education are to be realized.

Appendix

Outline

Chapter I

CHILD DEVELOPMENT AND MODERN EDUCATION

I. The Goal of Child Guidance

- A. To give teachers and parents information which will help them direct child development into wholesome maturity.
 - 1. Physical growth which is sound enough to support the demands of life.
 - 2. Mental growth appropriate for living up to one's capacities.
 - 3. Moral growth in harmony with the best interests of the group.
 - 4. Social growth adequate for living in a democracy.
 - 5. Personality growth leading to a wholesome, integrated adult.
- B. To make the experience of growing up a happy one.

II. Growth and the Developmental Point of View

- A. What an individual is at any one time is the result of a gradual development from vagueness to specificity, from weakness to strength, from clumsiness to coordination; what he is now gives a preview of what he will be.
 - 1. Good behavior develops because of favorable experiences in the days of childhood.
 - 2. Maladjustment develops out of initial trends hardly recognizable at the outset.
- B. Since growth is gradual and is greatly influenced by the environment, it is susceptible to control and direction; and, in a large sense, the child may be molded through education.

- C. In childhood growth is relatively rapid, a fact which magnifies the importance of environmental influences in this period of life. To misjudge the proper time for appropriate instruction is to lose the chance to guide development.
- D. Developmental norms assist in understanding and guiding the development of the individual.

III. The Meaning, Scope, and Significance of Child Psychology

- A. Meaning: Study and understanding of child development from the single cell to the adolescent.
- B. Scope: Study of the whole developing personality—particularly of physical, mental, moral, social, and personality influences which affect development.
- C. Significance:
 - 1. Adult behavior, good or bad, has its genesis in childhood experiences.
 - 2. The responsibilities of parents, teachers, and the community for providing favorable conditions for wholesome development are great.
 - 3. Knowledge of child psychology will help parents and teachers in guiding children with more understanding and less friction.
 - 4. The progress of the race depends upon the sound guidance of children.

IV. Theories of Child Nature

- A. Inherent badness: The child is "conceived and born in sin."
- B. Inherent goodness. The child is essentially good but adults teach him to be bad.
- C. Recapitulation: From conception to maturity the child goes through the stages in the physical and the cultural evolution of the race.
- D. Instinct: The child is motivated by inherited drives called instincts which unfold or wane at various stages in his development.
- E. Heredity: "Blood will tell," and the whole nature of the child is determined by biological heredity.
- F. Euthenics: Heredity is of minor importance, and the child is the product of environmental influences.
- G. Free will: Life presents opportunities for choices, and thus the child may of his own free will choose his own destiny. Education should help him to make right choices.

H. Scientific: The child is studied by the scientific method, and no theory is advanced beforehand to explain his behavior. This view is objective, unbiased, and factual.

V. Methods Used in Child Psychology

- A.* Subjective diagnosis and appraisal: Uncontrolled observations and anecdotes.
- B.* Controlled subjective observation: Specific behavior is observed by such devices as the check list, time samples, community surveys, or situational analyses.
- C.* Rating scales and questionnaires: Attempts are made to refine subjective diagnosis and to obtain numerical data.
- D.* Case history: The individual's past is carefully examined to discover the cause of his present motives and actions.
- E.* Psychophysical studies: These are investigations to discover the relationships between the child's physical status and his personality.
- F.* Experimental methods:
 - 1. Control groups.
 - 2. Controlled observation: One-way screens, photographs and motion pictures, check lists, experimental cabinets, statistical analysis
 - 3. Psychological tests.
- G.* Clinical method: Case history, interview, psychoanalysis, tests, diagnosis and prognosis, remedial treatment
- H.* Biography: Jottings, organized into an acceptable literary account, of the day-by-day development of infants and young children

VI. The Scientific Study of Children

- A.* The aims are to predict and to control the development of children.
- B.* The scientific approach to child study requires an open-mindedness and freedom from bias.

Chapter 2

HEREDITY AND EARLY DEVELOPMENT

I. Heredity

- A.* Some laws of heredity.
 - 1. In general, like produces like.
 - 2. Only certain traits follow hereditary laws. Many "human" traits are environmentally determined.

- 3 A particular child is the convergence of two life streams; a portion of his inheritance comes from the maternal side the remaining portion is contributed by the paternal side
- 4 Chance plays an important role in
 - a The pairing of the chromosomes in the state of flux
 - b Which set of maternal or paternal chromosomes goes to which cell during the reduction division
 - c The particular cell which unites with another in the maternal and paternal line
 - d The pattern of genes in any chromosome
 - e The genes carried in any particular chromosome
 - f The crossing over of genes from one paired chromosome to another
 - g How dominant and recessive traits will be distributed according to the three to one ratio especially if there are less than four children in a family
 - h Determination of sex
- 5 Some traits are dominant while others are recessive
 - a If pure dominant and pure recessive traits are matched by mating all the second generation will manifest the dominant trait but will carry the recessive trait
 - b If two traits which are manifestly dominant but which each carry a recessive trait (second generation above) are matched the next generation (third) will exhibit the three to one ratio
 - c If pure dominant traits are matched the offspring are all dominant if pure recessive traits are matched, the offspring are all recessive
- 6 Some traits are sex linked The trait is transmitted *through* the daughter to the *grandson* with a skip of one generation in its manifestation (Color blindness hemophilia)
- 7 There is an apparent compromise effect when two traits which lack the dominant-recessive dichotomy are matched At least the ratio is more complex than the three to one ratio (Skin color)
- 8 Changes in the stock are made by some form of selective mating It is possible that mutations have produced certain geniuses in history or started certain talents, e.g., musical or mechanical
- 9 Not only do siblings inherit traits which cause them to

resemble one another but they also inherit their individual differences.

B. Process of heredity.

1. Carriers of hereditary traits.

- a. Chromosomes: Of the forty-eight chromosomes, half come from the maternal line and half from the paternal, but in each pair both lines are always represented.
- b. Genes: Each chromosome contains an unknown number of genes which are the real determiners, or carriers, of inheritable traits. They have a pattern of arrangement which is no doubt important but little known.

2. Stages of chromosome arrangement.

- a. State of flux of chromosomes before maturity: The original chance arrangement is altered. Maternal and paternal chromosomes pair off.
- b. Reduction division: Each cell divides so that there are twice the number of cells, but each has the same number of chromosomes because the maternal set goes to one cell and the paternal set to the other.
- c. Cell division: In this cell division there is a doubling of the chromosomes, because each splits into two. With the ova, three out of the four cells atrophy, leaving only one for possible fertilization. The cells are now functionally mature.

C. Traits which follow hereditary laws.

1. Physical traits: Eye color, white forelock of hair, haemophilia, color blindness, brachydactyly, blood type, skin color, height, and many other bodily features.
2. Mental traits: Intelligence musical talent.
3. Personality traits: Nothing is definitely known although it is suspected that some *tendencies* are inherited.

D. Significance of heredity in child psychology.

1. A knowledge of heredity helps one understand one important factor in child development.
2. As far as the offspring are concerned, one marries not only a mate but also his entire family tree.
3. Improvement of the race must come from intelligent selective mating.
4. Some traits may be traced back to their origins, but prediction is less exact.

E. Heredity and environment.

1. Heredity is the framework within which the environment must operate.
2. There has been an environmental influence even before birth.
3. Maturation is important in learning many of the fundamental skills.
4. Human nature is a product of heredity and environment.

F. Inheritance of acquired characteristics: Most biologists have denied the possibility, but McDougall has produced evidence which suggests that it is possible *if* the training is consistent and carried through enough generations.

II. Prenatal Development

A. Rapidity of growth: In 280 days there is a volume increase of five million per cent and a weight increase of one billion per cent.

B. Stages of development.

1. Germinal period: The first two weeks.
 - a. The fertilized egg is not yet attached to the walls of the womb and therefore receives no nourishment.
 - b. Cell division goes on at a rapid rate and some specialization occurs.
2. Embryonic period: Second to eighth week.
 - a. The egg has now grown into what is called the embryo, which attaches itself to the walls of the uterus and receives nourishment through the placenta by a process resembling osmosis.
 - b. Specialization or differentiation is characteristic of this period.
 - c. The first behavior is noticed about the third week; the heart starts beating.
3. Fetal period: Eleventh week until birth. Growth and differentiation continue at a rapid rate with the characteristic human features becoming more prominent.

C. Significance of prenatal development:

1. The fundamental differentiations are initiated.
2. During this time growth of structure takes place which is later the basis of behavior.
3. The endocrine glands start functioning and influence growth.

D Prenatal influences

- 1 The thinking or wishing of the mother has no effect on the embryo "mind"
- 2 Nutrients, toxins, or drugs can affect the physical development of the fetus through the blood stream
- 3 Syphilis, gonorrhea, and other infectious diseases may be contracted before, or at, birth but are not inherited
- 4 Anything which influences the health of the mother can influence the physical development of the fetus
- 5 Strong emotional shocks may influence the endocrine balance in the endocrine system of the mother, and the hormones carried in the blood stream may affect the fetal growth
- 6 Unfavorable prenatal influences are sometimes related to the mother's disappointment upon learning of her pregnancy

III Development during the First Year

A Description of the neonate Head very large in proportion to size of body; weight about seven and one half pounds, very red, wrinkled, and unattractive

B Behavior of the neonate Muscular responses are random and uncoordinated

- 1 General behavior The newborn can suck, sneeze, cough, breathe, start at a sudden noise, cry when hurt, move his head. His muscular responses are random and uncoordinated and have the characteristic of 'wholeness'

2 Sensory functions

a Vision

- (1) Eye fixation are possible at birth
- (2) Pursuit movements are not well developed until the third week
- (3) Moderate light causes orientation toward its source
- (4) Intense light causes closing of eyelids
- (5) Focusing is not generally possible before the eighth day

b Audition Some children jump, or start, at a loud sound on the day of birth, but the average do not until about two weeks

c Taste Unless the substance is very bitter, salty, or sweet there is no response during even the first few months

3. Reflex behavior.

- a. Significance of reflex behavior: If present it indicates normal development of the nervous system; if absent it indicates some injury.
- b. Reflexes appearing soon after birth.
 - (1) Knee reflex: Involuntary kick.
 - (2) Plantar or Babinski reflex: Fan-shape extension of the toes. Normal in babies but abnormal in adults.
 - (3) Cheek reflex: Turning head in direction of facial stimulation.
 - (4) Pupillary reflex: Automatic closing of the pupil.
 - (5) Grasping reflex: Closure of the fingers around an object pressed into the palm of the hand. Disappears at four months.
 - (6) Sucking, sneezing, coughing, breathing, hic-coughing, crying, yawning, and smiling frequently appear during the first hour.

4. Emotional behavior.

- a. Significance of emotions.
 - (1) They signify whether the individual is contented or discontented.
 - (2) They are mechanisms which, in the end, protect him from harm or destruction.
- b. Innate patterns.
 - (1) Fear.
 - (2) Anger or rage.
 - (3) Love or contentment.
- c. Emotions and learning: These three mechanisms are ready to operate but do not have many unconditioned stimuli. With experience, more and more stimuli are connected with these mechanisms until in a few years they have been almost entirely overlaid by learning.

IV. Guidance Principles

- A. Prenatal period. Observe principles of physical hygiene, avoid drugs, toxins, or emotional shocks
- B. First year.
 - 1. Avoid emotional stimulation.
 - 2. Provide mental stimulation
 - 3. Establish good habits by consistent treatment.

- 4 Prevent undesirable habits, especially thumb sucking, from developing by removing the causes.

V. *Individual Differences*

They are the rule rather than the exception. Norms are to be used with caution. Some differences are to be encouraged. Physical development cannot be taken as a measure of mental development. Differences as well as likenesses are inherited.

Chapter 3

PHYSICAL GROWTH IN CHILDREN

I. *Importance of Physical Growth*

Physical conditions influence mental, personality, and all other forms of development

II. *Early Physical Development of the Child*

Prenatal, neonate, infancy, etc.

III. *Some Aspects of Developmental History of an Individual*

IV. *Sources of Data on Physical Growth*

A Retests of the same child

B. Norms or averages from mass testing

1. Values of norms

a They are rough measures of satisfactory development of the great majority of children

b In case of atypical development as a whole, they may help in analyzing the cause

2 Misuses of norms

a The child who is not average may be considered abnormal

b The norm may be in error because it describes what is found for the average child who might have been different had he enjoyed a better environment, better health, etc

c They do not include many factors which are important in growth. The "whole" child may be neglected

d. To be "normal" or not on one standard tells nothing of other traits or their interrelationships.

V. *Some Growth Records. Studies made by*

A Stow's Records showing height-weight changes

B. Kellogg's Records of young chimpanzee and child compared.

- C. McGraw: Records of trained twin and control twin compared.
- D. Jersild: Records of trained versus untrained groups.

VI. *Specific Developments*

- A. Bony structures: The appearance of the permanent teeth and the degree of bone ossification are indices of maturity.
- B. Glands: The endocrines regulate a large portion of mental and physical growth.
 - 1. Pituitary.
 - a. Location: Base of the skull.
 - b. Function: Regulator of growth.
 - c. Imbalance: Overactivity causes gigantism; underactivity, dwarfism.
 - 2. Thyroids.
 - a. Location: On either side of the neck.
 - b. Function: Regulate metabolism and mental and physical growth.
 - c. Imbalance: Overactivity causes nervousness. Underactivity in infants causes cretinism; in adults, lethargy.
 - 3. Parathyroids.
 - a. Location: Near the thyroids.
 - b. Function: Manufacture of calcium for bone structure.
 - c. Imbalance: Underproduction of calcium causes poor teeth and bones, and restlessness, agitation, or inability to concentrate.
 - 4. Adrenals.
 - a. Location: One just above each kidney.
 - b. Function: A source of bodily and emotional energy.
 - c. Imbalance: Overactivity causes excitability; underactivity, debility.
 - 5. Thymus and pineal.
 - a. Location: Upper part of thorax and base of brain.
 - b. Function: Inhibits the gonads and controls growth.
 - c. Imbalance: Early atrophy causes premature puberty; delayed atrophy retarded puberty.
 - 6. Gonads: Normally the sex glands do not influence growth or behavior until the beginning of adolescence.
- C. Muscular Development.

VII. *Hygiene of Development*

Chapter 4

MOTOR DEVELOPMENT OF THE CHILD

I Significance

- A* All activity, social, intellectual, or motor depend to some extent upon motor development. Many skills, abilities, and maladjustments can be traced to either favorable or unfavorable motor growth.
- B* The child can be more adequately understood and guided when basic growth norms are available. The child's early development is especially important.

II Motor Development in the Fetus and Neonate

1 Fetus

- 1 Motor activity appears as early as the eighth week.
- 2 Some reflexes are operative by the third month.
- 3 Some muscles are capable of response by the fifth month.
- 4 By the time of birth, development has progressed to a point where there is some specificity of response and whole groups of muscles work together.

2 Neonate

- 1 There is much muscular response. Although most of it is either random or generalized.
- 2 The upper part of the body is well developed at birth, indicating prenatal acceleration, while the lower part has a period of accelerated growth immediately after birth.
- 3 In general, development is from the head downward (cephalocaudal) and from the center of the body to the periphery (proximodistal).

III Development of Posture and Locomotion

1 Posture

- 1 Sits alone at seven months.
- 2 Stands alone at thirteen months.

2 Locomotion

- 1 Significance: Good index of neurological development.
- 2 Achievement
 - a* Creeps by ten months.
 - b* Stands by twelve months.
 - c* Walks by thirteen to fifteen months.
 - d* Walks backward, up and down stairs, and runs during second year.

IV. *Arm-Hand Control*

- A. Manual control.
 1. Sequence of control.
 - a. Arm: Whole arm from shoulder, elbow, fingers, wrist.
 - b. Hand: Reflex grasping, voluntary grasping with thumb opposition, palmar grasping, scissors closure, and finger grasping.
 - c. Reaching: Circular reach with error, to direct reach without error; it is well developed by six months and follows a proximodistal course.
 2. Hand Preference.
 - B. Throwing: Begins at six months. Can throw a ball by one year, play catch by two years, and has considerable skill by six years.
 - C. Handwriting: Mass activity is either eliminated with progressive development, or it is transformed into cooperative activities.
 - D. Typewriting: The process is one of refining visual and kinesthetic cues to direct the aiming activity in hitting the keys.
7. *Aspects of Motor Development Showing a Gradual Increase with Age until Maturity*
- A. Speed of movement.
 1. Finger tapping.
 - a. Rate.
 - (1) At four years the rate is four per second.
 - (2) At eight years it is five per second.
 - (3) At eighteen years it is six to seven per second.
 - b. Sex differences: Among children there are none; among adults men are slightly faster than women.
 2. Athletic activities: Development continues until about twenty-five years.
 - B. Accuracy of movement.
 1. Aiming and tracing.
 2. Athletic activities.
 3. Written and spoken language.
 - C. Steadiness of motor control.
 - D. Muscular strength.
 1. Boys increase steadily until about fourteen and then rapidly until about seventeen, at which time maximum strength is about reached. At all ages boys are stronger than girls.

2. Girls increase steadily until about fourteen and then at a slower rate until about seventeen, at which time maximum strength is reached.

E. Motor endurance

F. Motor rhythm.

VI. Principles of Motor Learning

A. Provide good equipment, physical surroundings, opportunity to practice

B. Motivate the learner

1. Give him a meaningful goal towards which to work.
2. Provide knowledge of progress (measurement).
3. Reward successful efforts

C. Provide effective guidance

1. Good instruction ensures a correct start
2. Demonstrate correct methods and procedures
3. Verbal instructions should be used sparingly at first, but increased when the learner is fairly skilled and trying to refine his activities
4. Tell what to do rather than what not to do
5. Show connection between incorrect activities and failure, and between correct activities and success
6. Avoid over guidance
7. Look for causes of plateaus and remove them

D. Practice

1. Practice periods should be frequent and short (spaced)
2. Discover the correct activities and practice them diligently

VII. Nature and Relationships of Motor Abilities

A. Relationship to intelligence. Positive but rarely significant.

B. Unitary constitution

1. There is no general factor common to all motor abilities.
 - a.* Muscular strength, speed of movement and accuracy are specific factors not necessarily related to one another
2. The attitude of persistence may influence and be common to a number of motor activities

C. Relationship to social adjustment. Skill and strength encourage extroversion, aggressiveness, and self-confidence. They minimize fear, failure and timidity. Their relationship to academic success is not clear.

*Chapter 5***GROWTH IN MOTIVATION DURING CHILDHOOD***I. Nature of Motivation*

- A. Stimulating the child to some desired activity or end.
 - 1. Raising his level of energy, thus increasing activity.
 - 2. Directing available energy into desired channels.
- B. Substituting external control of the child for minimal cues which arouse inner control and purposeful activity.

II. Importance of Motivation

No activity or learning is initiated or accomplished without some form of motive. Occasions are constantly arising where the parent or teacher recognizes the desirability of some line of action on the part of the child, who may have neither the interest nor the maturity necessary to motivate him without external suggestion.

III. Foundations of Motivation

All motivation is based upon the desires of the child, either organic or acquired, internal or environmental, positive or negative.

A. Natural motives

- 1. Those having some hereditary or organic basis, and whose stimuli usually originate from within.

*a. Instincts**(1) Criteria*

- (a)* Unlearnedness or appearance at birth.
- (b)* Universality, without imitation.
- (c)* Sequentiality, without learning.
- (d)* Blind, nonspecific, or unique behavior which leads to a racial goal.

- (2) Value as motivators: Although the term is in dispute among some psychologists, the concept of unlearned motives is applicable to considerable behavior in its initial stages. After a short time the environmental factor so modifies behavior, by reinforcement or inhibition, that it is no longer dominantly innate. Without the concept, however, much motivation would remain almost entirely a mystery.

(1) **Nature:** Hunger, thirst, avoidance of pain.

(1) Nature: Hunger, thirst, avoidance of pain.

2. Those having no organic basis: They are so universal and consistent that some inherited basis is suggested, but all are highly modifiable by conditioning.

(1) Nature: The child likes to be well thought of and to be with others. Gregariousness is a reality, even if its origins in heredity or conditioning are obscure

b. Egotic tendencies

(1) Nature: Selfishness, self-centeredness, desire for security.

(2) Value as motivators: These tendencies can be tied up to activities which are considered desirable.

(1) Nature: Desire for attention, to be well thought of, to be outstanding.

(2) **Value as motivators:** Many activities begin with the simple desire to show off, but soon some inherent interest in the activity itself may become the motive.

(1) **Nature:** A desire to possess or own. **Ownership** is more important than systematic collecting.

(2) Value as motivators: The promise of "something for his very own" may effectively motivate behavior.

B. Environmental motives. (There is much overlapping with natural motives, but they can be imposed from the outside in greater degree.)

a. Nature: Novelty is a strong determinant of attention and action, until familiarity removes all strangeness.

b. Value as a motive: The teacher may use novelty,

change, and suspense to motivate learning very effectively

2 Annoying situations (punishment)

a Kinds

(1) Natural

(a) Nature Annoyance growing out of the natural consequences of the situation

(b) Value as motivators Because they are consistent, objective, and invariable the child soon learns to avoid them. This is the best kind of motivation but not always possible to control

(2) Artificial

(a) Nature Annoyance administered by another person

(b) Value as motivators

(i) Positive [1] Some point is emphasized that might otherwise be ignored [2] they are immediate in action [3] they are on the level of the child's understanding

(ii) Negative [1] The child avoids the person who gives the punishment rather than the act [2] deception may be encouraged in the attempt to avoid the artificial annoyances, [3] the child may retaliate [4] some forms of punishment are disintegrating

3 Satisfying situations (rewards)

a Kinds

(1) Natural

(a) Nature Satisfaction follows automatically from the act

(b) Value as motivator Because they are consistent, invariable, and objective they are soon connected with the behavior which precedes them. They are good but cannot always be controlled

(2) Artificial

(a) Nature Satisfaction is provided by another person

(b) Value as motivators

(i) Positive [1] They are immediately effective

tive, [2] easy to control, and [3] may cause the desired behavior to become satisfying on its own account

- (ii) Negative [1] Deceptive behavior may be encouraged, [2] the behavior is artificial and may drop out as soon as the reward is withheld, and [3] the child may develop false values

4 Social situations

a Nature The course of development is from gross egocentricity to socialization through

- (1) Show-off stage
- (2) Playing with others
- (3) Being motivated by rivalry
- (4) Cooperative activities

b Value as motivators With increasing age children are influenced more and more by rivalry, prestige, social approval or disapproval and other subtle social relationships. Sometimes the influence is inhibiting, but a knowledge of the child will tell what can be effectively employed

- 5 The teacher and parent Their functions are to manipulate the motivating factors which are known to be effective, to select or approve of goals to measure progress, to offer encouragement, and to direct learning

Chapter 6

LANGUAGE DEVELOPMENT IN CHILDHOOD

I Functions of Language

- A* Social communication Based on making one's needs known.
- B* Egocentric expression Based on the desire to attract attention
- C* Thinking Based on the need for problem solving
- D* Vehicle of social progress Social development is furthered by various kinds of language—speaking, writing, shorthand, Morse code, etc

II Perceptual-Motor Control of Speech

- A.* Random vocalization The birth cry and the unintentional use of vowels and consonants

- B. Imitation:** Reduplication of sounds produced by himself and duplication of sounds produced by others.

III. Disorders of Motor Control

A. Stuttering and stammering.

1. Frequency: Seven-tenths per cent in first grade to one to two per cent among adults. Fifteen per cent have incipient symptoms at one time or another.
2. Age of appearance: Eighty-five per cent before the age of eight
3. Sex differences: More frequent among boys than girls.
4. Relation to school success: Children are retarded about one and one-half years in school.
5. Relation to intelligence: Little, if any
6. Causes.
 - a. Functional: Social insecurity, emotional excitement or shock, and bad habits of breathing.
 - b. Organic
 - (1) Heredity
 - (2) Brain injuries.
 - (3) Infectious diseases.
 - (4) Lack of visual or auditory imagery.
 - (5) Incomplete or disturbed hemisphere dominance: If a naturally left-handed child is forced to use the right hand for writing, the hemisphere dominance is disturbed, causing inhibitions which are manifested in stuttering. This theory has not been confirmed, but the fact remains that a large percentage of stutterers have had their handedness changed, and if allowed to return to the use of the preferred hand the disorder is minimized.

B. Disorders of articulation and vocalization.

1. Causes
 - a. Organic
 - (1) Injuries to the central nervous system: Lesions and mental deficiency.
 - (2) Defects of the peripheral speech organs: Cleft palate, harelip, malformed teeth.
 - (3) Defects of hearing.
 - b. Functional: Baby talk and other forms of incomplete development.

2. Treatment.

- a. Present correct speech sounds for the child to imitate.
- b. Drill in hearing and articulating correct speech sounds.

IV. Aspects of Development

A. Word development.

1. Object naming develops first and proceeds rapidly.
2. Comprehension of names and sentences precedes use.

B. Vocabulary development.

1. Composition of vocabulary.

- a. Nouns are used as whole sentences at first; by two years they constitute fifty per cent of the vocabulary.
- b. Verbs, pronouns, adjectives, prepositions, conjunctions, and articles gradually increase in number and the proportion of nouns decreases.

2. Size of vocabulary: There is a very rapid increase from about two words at one year, 270 words at two years, 1000 words at three years, 1500 words at four years, 2000 words at five years, to 10,000 or more by fourteen years.

3. Growth of meanings.

- a. New words are learned — vocabulary increase.
- b. Old words take on more meaning — word growth.

C. Sentence development

1. Length of sentences: One word at one year, two word sentence at two years, three and one-half word sentence at three years, four and one-half word sentence at four years, and 4 and three-fourths word sentence at six years.
2. Structure of the sentences: Single noun at one year, nouns and verbs at two to three years, complete sentences from four years on.

D. Reading and writing development: Development and willingness to practice grow out of everyday interests. Meaningful experiences lead to a desire to read or write.

E. Number and divisibility concept development.

1. Counting depends upon practice and experience.
2. Divisibility does not appear until around four years.

F. Foreign language development: Direct and indirect methods both are valuable.

G. Drawing and construction development: Progress and functions are very similar to speech.

V. Relationship of Language to Various Factors

- A. Health and physical vigor: A positive relationship is suspected.
- B. Motor behavior.
 - 1. If one has used a thing there is a strong tendency to talk about it.
 - 2. Learning an interesting motor act may retard speech development.
 - 3. A relationship between amount of motor activity and language activity is reasonable.
- C. Sex.
 - 1. Girls start talking earlier than boys.
 - 2. Girls have larger vocabularies, use more speech forms, and imitate better than boys
 - 3. Girls have fewer speech defects and fewer reading disabilities than boys.
- D. Intelligence: There is a high positive relationship between intelligence and language ability or development.
- E. Environmental conditions.
 - 1. Favorable.
 - a. Good socio-economic status of parents.
 - b. Stimulating and broad environment.
 - c. Encouragement given by older siblings, playmates, adults.
 - 2. Unfavorable.
 - a. Lack of encouragement and outside contacts.
 - b. Bilingual homes.

Chapter 7

EMOTIONAL DEVELOPMENT OF CHILDREN

I. What Emotions Are

- A. A stirred-up, disorganized condition of the organism (unpleasant) or a highly contented, relaxed condition (pleasant).
- B. A condition or state of the body and mind characterized by feeling and sensing rather than thinking and reasoning.

II. The Original Emotions

- A. Meaning: Inborn emotions which appear without benefit of learning.

B. Watson's experiment.

1. Purpose: To determine what stimuli will arouse emotional responses before the child has had a chance to imitate the responses of others.
2. Watson's list of primary emotions.
 - a. Fear: Evoked by loud sounds or loss of support.
 - b. Rage (anger): Evoked by interfering with the free activity of the infant.
 - c. Love: Evoked by stroking the sensitive areas of the body.
3. Criticisms of Watson's list.
 - a. Watson knew the character of the stimulus; so his expectation of the character of the response influenced his judgment. Sherman has shown that without knowledge of the stimulus, fear and anger are extremely difficult to differentiate.
 - b. The same stimulus does not *always* elicit a stereotyped response.

C. Bridges' study.

1. Purpose: To determine what primary emotions there are and to discover at what ages they appear (genetic approach).
2. Bridges' study of the genetic development of emotions.
 - a. Undifferentiated excitement: Only emotion at birth.
 - (1) Distress: Differentiated around the third month, caused by physical dissatisfaction.

<ol style="list-style-type: none"> (a) Anger (b) Disgust (c) Fear 	}	all well developed by one year.
--	---	---------------------------------
 - (2) Delight: Differentiated around third month, caused by physical satisfaction.

<ol style="list-style-type: none"> (a) Elation (b) Affection 	well developed by one year.
--	-----------------------------

III. Characteristics of Emotions

- A. They maintain the optimum physiological balance of the organism (emotion and motive) or prepare the body for emergencies.
- B. Ambivalence: They are unstable, tending to vacillate between opposite states. They are compensatory in nature.

IV. Characteristics of Individual Emotions

A. Fear.

1. Biological purpose: A mechanism of internal physio-

logical upheaval enabling one to flee from danger, or producing a mental set of apprehension or alertness for danger. It had great self-protective value for primitive man but it has little for modern *civilized* living.

2. Stimuli.

a. Unconditioned.

(1) Overstimulation.

(2) Discomfort.

(3) Sudden, violent, or unexpected stimuli.

b. Conditioned: Anything vivid, intense, or unpleasant which is associated with an unconditioned stimulus.

3. Phobias are intense fears caused by unfortunate conditioning.

4. Elimination of fears.

a. Associate something very pleasant with the fear.

b. Familiarize the child with the fear-stimulus, kept as subliminal as possible to begin with but increased gradually in intensity until he gets used to it (negative adaptation).

c. Social factors may play upon the older child's ego causing him to reinterpret the fear stimulus.

5. Value of fear.

a. Protection from some dangers.

b. May be used as a motive, particularly a negative motive.

B. Emotional attitudes.

1. Kinds.

a. Self-confidence: Built up by a history of successful adjustments.

b. Inferiority:

(1) Causes.

(a) History of failures (habit).

(b) Frequent arousal of the fear emotion.

(c) Social disapproval (criticism, nagging).

(2) How to prevent inferiority feelings.

(a) Give the child tasks commensurate with his abilities.

(b) Be sure he succeeds in more than fifty per cent of his trials and develops a habit of success.

C. Rage (anger).

1. Causes.

a. Unconditioned: Restriction of free activity.

- b. Conditioned: Any frustration, mental or physical (discipline, illness, failures), degrading the ego.
- 2. Characteristic: Disorganized behavior of a violent nature.
- 3. Value: Only if greatly modified into an attitude of determination to overcome obstacles is it socially acceptable. Unless angered, some people are not motivated to take the side of justice or to prove their own ability.

V. How Emotions Are Studied

- A. Studies of overt responses.
 - 1. Judgment of facial expressions: Quite inaccurate without a knowledge of stimulus
 - 2. Voice inflections: Not an accurate index of emotions. Crying and laughing are characteristics of opposite moods.
 - 3. Word association: Suggestive but very unreliable.
- B. Psychogalvanometer: A rough measurement of the intensity of an emotion.
- C. Physiological measurements of blood pressure, breathing rate. Rough measurements of the intensity of an emotion.

VI. Guidance in Emotional Development

- A. Difficulties of guidance
 - 1. Blaming emotional behavior on poor heredity.
 - 2. Thinking that poor emotional training is outgrown by maturity
 - 3. Adults will not see good examples of stable behavior.
- B. The goal of guidance should be the development of
 - 1. Self-confidence.
 - 2. Self-reliance
 - 3. Sociability.
 - 4. Aesthetic appreciation.

Chapter 8

MENTAL GROWTH IN CHILDREN

I. Characteristics of Human Infancy

- A. A period of helplessness.
- B. Only the simple and fundamental behavior mechanisms are provided by heredity, since the child is capable of learning. In the early years of life the child learns rapidly.

II. Mental Equipment of the Newborn Infant

- A. Reflexes: Unconditioned emotional responses, maintenance functions, sneezing, coughing, and so on.
- B. Development of behavior.
 - 1. Attention: Simple response to stimuli.
 - 2. Directed, or purposeful, responses to stimuli.
 - 3. Learning, which increases rapidly with maturation and experience.

III. The Measurement of Intelligence

- A. A definition of intelligence: Ability to learn.
- B. Tests of intelligence for use with children.
 - 1. The Gesell developmental scale.
 - 2. Bayley's California first year mental scale.
 - 3. The 1937 Terman-Merrill scale.
- C. Individual differences are great, and allowance must be made for them in the school and the home.
- D. The constancy of the intelligence quotient.
 - 1. Fluctuation of the I Q is not the same thing as fluctuation of real intelligence.
 - 2. The I.Q's of younger children fluctuate more than those of older children do.
 - 3. Good environment may raise test performance as much as twenty points in some instances.
 - 4. Testing is a technical procedure which requires practice and study before valid inferences may be drawn. The question of what the tests really measure is not yet settled.

IV. Educational Problems of Mental Development

- A. Forcing development may produce a maladjusted child.
- B. What to provide for the growing child: A wholesome, normal environment that offers opportunities to learn to adjust to important situations appropriate to the child's level of development.
- C. Nursery schools and kindergartens offer excellent opportunities for the proper experiences under rather ideal conditions.
- D. The child as the center of education: Individual differences require that each child's needs, abilities, and interests be considered. Modern education aims to help each child to live up to his mental level and achieve his highest poten-

tialities. Social adjustment to the democratic community is the ideal.

E. Discipline: Social direction and guidance are now substituted for suppressive control.

V. Factors Related to Mental Growth

A. Socio-economic status: Bright children usually come from "good" homes.

B. Heredity: There are inherited differences, but much yet remains to be done by way of improving environmental opportunities.

C. Race: No unquestioned racial differences in mental abilities have yet been found.

Chapter 9

THE LEARNING OF CHILDREN

I. The Importance of Learning

A. At birth the child is helpless and dependent.

B. Learning, and maturation, bridge the gap between dependency and self-reliance.

II. Sensory and Perceptual Learning

A. Nature: The attachment of meanings to sensory impressions.

B. Development.

1. Dependence upon sensory impressions and power of attention.

2. The dawn of consciousness.

3. The rise of powers of discrimination.

4. The influence of repeated experiences in situations which become increasingly meaningful for the child.

C. Perceiving and reacting.

1. Normally, a perception leads to a response of some sort or other.

2. Maturation and broadening of experience, factors which tend to make perceptions and reactions more adjustive to the demands of the environment.

III. Theories of Learning

A. Conditioning

1. Nature: The attachment of a response to a situation that did not at first elicit it

2. Significance: The explanation of many reactions learned

by the child. Supported by many experiments on lower animals.

B. Connectionism or bond formation.

1. Nature: When a stimulus is repeatedly associated with a response, a bond is formed between them.
2. Satisfying outcomes strengthen, annoying outcomes weaken, bonds.

C. Other theories.

1. McDougall's emphasis upon the purposeful nature of learning. Learning requires adequate motivation.
2. The Gestalt view: Learning is a total act; to analyze it is to lose sight of its essential feature. The *whole* child learns.

D. Theoretical explanations differ principally in terminology and points of emphasis, not in basic principles.

IV. Ideas and Meanings

- A.* The most important phases in the intellectual development of the child.
- B.* The egocentric character of children's ideas and meanings. Children have to learn to objectify their experience.
- C.* Advancement in ideas and meanings by insights.
- D.* Some practical suggestions for guiding children in learning valid ideas and meanings. The progressive nature of the learning process.

V. Some Aspects of the Learning Process

- A.* The learning curve, an idealized, abstracted, graphic presentation of the rate of progress in learning.
 1. Learning curves do not indicate all the facts about how children learn.
 2. The conventional curve shows rapid initial progress, a diminishing return from further practice, and a slow rise to the limit of capacity.
 3. No curve is representative of all types of learning by every individual child.
- B.* The importance of motives in learning.
- C.* Practice alone does not make perfect.
- D.* Age differences in rate of learning.
 1. Laboratory studies clearly reveal great differences.
 2. Simple tests of mental development are based upon this fact.
- E.* Learning must be studied in real life situations, a neglected

field of research. Learning is a dynamic, purposeful activity that takes place because the child is motivated to attain certain goals that are significant for him at the time.

Chapter 10

SOCIAL DEVELOPMENT OF CHILDREN

I. Development at Different Ages

- A. First year: By the second month the infant will smile on seeing a familiar person, by the third month he will turn head and eyes in the direction of a heard stimulus, by the end of the fifth month he returns a smile or cries at the sound of a scolding voice, by the tenth month he competes for attention, and by one year he is very conscious of his social environment, even making considerable use of it for his own physical and egotic needs.
- B. Preschool children.
 1. Unorganized social environment: He is self-centered in his social contacts; he wants everything for himself but never gives anything.
 2. Organized social development in nursery school or kindergarten: He thinks everything is his own and only gradually does he get the idea of sharing or cooperating and that other children feel the same as he does. Kindergarten children probably reach the cooperative stage sooner than children who do not have a semicontrolled social training.
- C. Pre-adolescent children
 1. There is a rapid development of ability to communicate — language, voice inflections, gestures, and writing.
 2. There is much trial and error in social learning, and those responses which bring pleasure become adopted.
 3. Imitation plays a large part in the development of social attitudes.

II. Emotional Factors in Social Development

- A. Friendliness-unfriendliness has an emotional basis.
 1. The child is naturally friendly because most of his egoistic pleasure comes from association with others.
 2. If a child is unfriendly his contacts with other children have not been pleasant.
 3. The child needs to learn that unless he considers the

rights of others and makes them feel important he will have few friends.

- B. Prejudice and other social attitudes are frequently the reflections of parental attitudes.

III. The Course of Social Development

There is gradual development from gross egocentricity to the ultimate level of socialization that the individual finally reaches. Development seems to depend mainly upon:

1. The judicious use of rewards, and denial or punishment.
2. The opportunity to play with other children.
3. Varied, rather than limited, social contacts.
4. Conditioning from the home, school, etc. in social attitudes, ideas, and habits.

IV. Factors Contributing to Leadership

- A. Physical size, strength, health, energy, endurance.
- B. Imagination, intelligence, or special ability in the activity they lead.
- C. Extroversion, knowledge, and a history of success in past efforts to lead.
- D. Ability to perceive and organize the interests common to the group.

V. Measurement of Social Maturity

VI. Factors Affecting Social Development

- A. Social order: The social unit—country, town, or city; primitive, medieval, or modern era; mining, industrial, or college community; Democratic, Communistic, or Fascist state—in which one is reared.
- B. Health: The give and take of much play depends upon good health and physical strength.
- C. Opportunities for playing with other children.
- D. Family environment: Birth order of the children, social position of the family, unity of the home, family interests, encouragement to assume responsibility and cultivate friends, provision for learning skills and securing an education.
- E. Camps, clubs, gangs: They offer opportunities to make friends, to develop leadership qualities, to learn the necessity of cooperating and considering the rights of others, to recognize the desirability of organizing to protect their

common rights, and to develop habits of responsibility and independence.

VII. Conduct Disorders

- A. Nature: Behavior which is detrimental to the individual or disturbs the calm of the environment.
- B. Behavior considered bad by both teachers and mental hygienists: Bullying, attitudes of discouragement, suggestibility, stubbornness, tattling, nervousness, selfishness, cowardliness, sullenness.
- C. Teachers must be trained to evaluate the behavior of pupils in the light of the social factors which cause the behavior and the trial and error attempts of the child to adjust to his environment at his own maturation level. Especially must they be careful not to project their own worries and unfavorable conditioning into the problem situation.

Chapter 11

CHARACTER DEVELOPMENT IN CHILDREN

I. Nature of Character

- A. Determiners of behavior- habits, attitudes, ideals--which characterize the individual as either good or bad. If good, he consistently does the best possible thing, within his ability, for everyone concerned in each situation as it arises. If bad, he cannot be depended upon to do any more than the selfish thing.
- B. The organization of the total personality so that there is the desire to do that which is beneficial for the greatest number of people.
- C. Consistent behavior made up of a constellation of habits, determining tendencies, social patterns, and volition.
- D. Behavior which corresponds to the mores of the group.

II. Factors Determining Character

- A. Physical factors: Health, nutrition, climate.
- B. Intellectual factors: Intelligence helps in foreseeing the consequences of behavior. Memory helps one in profiting from past experiences.
- C. Social factors: The home, the school, and the whole social environment influence the experiences of the child and de-

termine what habits he develops, what things he thinks about, what emotional and other attitudes he develops.

III. Theories of Character and Basic Principles (After Hartshorne)

- A. Trait theories: Emphasizing traits, virtues, etc. The trait concept has various meanings, the term is ambiguous, virtues may conflict, character is more than sum total of traits and virtues, virtues are abstractions, and their individual cultivation may not give us the integrated character.
- B. Habit theories: Emphasizing conduct, collection of habits, a hierarchy of habits, habits as social functions since they reorganize and reconstruct for each new experience, etc. This theory minimizes importance of inner phases of character and gives too little attention to man's purpose, "will," etc.
- C. Pattern theories: Stressing some dominant sentiment or pattern that controls the formation and organization of lesser patterns. This theory is structural rather than dynamic; it gives too little emphasis to man's creative intelligence, his power to evaluate, to will.
- D. Factor theories: Stressing factors that compose character. As examples, character may be considered—as inhibition, as persistence of motives, as consistency and deliberation, etc. This theory fails to emphasize the dynamic and creative character of the personality that purposes, evaluates, strives for higher values, etc.
- E. Self theories: Conceiving character as purposeful action or steadfast devotion to a cause, as democracy in action, as the biological unity of the self, as the principle of action, or integration.
- F. Social function theories: Stressing the effective functioning of the total dynamic personality in ways that suggest evaluation.

IV. Development of Character

- A. Character growth is gradual and develops from wholesome experiences in judging, evaluating, and participating in other social activities.
- B. Maturation is important in that the higher levels of character adjustment are dependent upon it.
- C. Goals must be established which are attractive enough to motivate the child to persist in developing good habits and maintaining desirable mental sets.

V. Educating for Character

A. Agencies: Home, school, church, Boy Scouts, Campfire Girls, movies, radio.

B. Methods.

1. Direct: Special courses are organized for teaching character. The method has the advantage of being definite and concrete but the disadvantage of being suggestive of "preaching."
2. Indirect: Good character is emphasized indirectly by the behavior and attitudes of teachers, by the selection of good literature to read, and through organized recreational activities where good character and sportsmanship are definite goals.
3. Democratic: Anything the child determines for himself is more likely to be accepted than if he is forced to conform. Suggestion must be the technique by which the proper ideas are presented for the child's democratic acceptance.

VI. Evaluation of Character

A. Tests.

1. Kinds: Knowledge of conduct, conduct tests, rating scales.
2. Weaknesses: The lack of validity and reliability. They measure very specific behavior which is different when the environment is changed even very slightly.

B. Questionnaires and anecdotes. These are suggestive only, but if consistent within themselves and with other measures they are valuable.

Chapter 12

RELIGIOUS DEVELOPMENT OF CHILDREN

I. Nature of Religion

A. Definitions.

1. An attitude toward the cosmos and worship of God.
2. A philosophy of living and an interpretation of the unknown.
3. An attempt to discover and live by the true, the good, and the beautiful.

B. Source: It is not inherited as such by the individual except insofar as religion satisfies his desire for security and sat-

isfies his curiosity of the unknown. A child may come to be religious or not the same as he learns anything else, through experience.

II. Objectives of Religious Education

A. Motivation.

1. To live above the brute level.
2. To dignify human life.
3. To live by high standards of conduct.
4. To make life meaningful.
5. To orientate life toward a goal of improved human relations which may be reached by humanity long after the individual's own lifetime.

B. Integration: The personality can be unified by giving an over-all purpose to the many conflicting selfish, biological, economic, social, vocational, religious, and other interests. It promotes individual and social peace and harmony. If religion is really functional and sufficiently broad it is a great mental hygiene force.

C. Social morale: Social institutions and organizations could benefit by religious guidance.

III. Aspects of Religious Development

A. Intellectual religious development.

1. Concepts of God, Jesus, prayer, church, etc., must be developed.

a. Difficulties of developing religious concepts.

- (1) There are no objective sense stimuli to perceive.
- (2) The precepts we attempt to teach are vague and abstract even to adults.
- (3) Errors of interpretation are easily developed and difficult to overcome.
- (4) Dogmatism leads to arrested development, and broad mindedness is beyond the mental grasp of the child, and many adults.

b. Suggestions for developing religious concepts.

- (1) Provide concrete materials, stories, and experiences which will help the child:
 - (a) Think of the unseen world, especially God, as friendly.
 - (b) See God in nature, in the natural order of

the universe, and in the concepts of truth and beauty.

(2) Give him a role to play in religious exercises.

B. Emotional religious development.

1. Wholesome religious emotional expressions, attitudes, or sentiments must be developed, such as: Faith, belief, and confidence in God; admiration, awe, and reverence for God; optimism and hope in the face of painful realities; love rather than hatred for others.
2. Encourage the child to.
 - a. Render service to others.
 - b. Develop friendships.

C. Personality and religious development.

1. Value of religion in personality development.
 - a. Through the attitudes of optimism and hope many hampering inhibitions and fixations are avoided.
 - b. Achievement of happiness.
 - c. Integration of the personality.
 - d. Self-confidence is developed.
 - e. Faith in forces greater than himself provides a goal of ambition and idealism for living.

IV. Agencies for Guiding the Child's Religious Development

- A. Home: The pattern of the home is important. A wholesome and attractive example is an effective force in molding a child's character.
- B. School: Broad principles which would offend no denomination can be stressed.
- C. Motion pictures: Because of the concreteness and vividness of the audio-visual approach to perception, movies which foster religious attitudes are very effective.
- D. Art: Some art forms are distinctly religious in character. Others are related to religion because they seek perfection or inspire through beauty.
- E. Play: Many forms of play can promote social cooperation, sympathy, and unselfishness.

Chapter 13

AESTHETIC EXPERIENCE IN CHILDHOOD

3. *Definition*

Heightened emotional response to certain configurational stimuli which, in general, inspire some form of expression.

II. Development of Aesthetic Experience

- A.** Nature: Aesthetic experience grows out of knowledge of the environment. Unless there is a wealth of environmental stimulation the experience cannot develop from within.
- B.** How to help the child feel more effectively.
 - 1. Teach him to see.
 - a. Present an abundance of stimulating experiences at his level of readiness to understand (appreciate) them.
 - b. Give him time to accumulate a wealth of experiences so that the relationships necessary for insight will have been perceived.
 - c. Encourage him to express what he feels through color, sound, or plastic mediums even before he is able to vocalize his feelings.
 - 2. Teach him to interpret what he sees.
 - a. Emphasize creativity as an act rather than insisting on a finished product, or upon attempts to imitate.
 - b. Allow him to express what he sees, however childish it may be.
 - c. Provide sufficient plastic and graphic materials for him to experiment with.
 - 3. Teach him to choose the good experiences from the bad.
 - a. Books, movies, etc., should be written at the child's level in such a way that he gains insight rather than just amusement.
 - b. Make good music, art, literature easily accessible so that it becomes familiar and satisfying.

III. The Goal of Aesthetic Experience

The enrichment of life resulting from a sensitivity to values and an understanding of their significance.

Chapter 11

PLAY LIFE OF CHILDREN

I. Theories of Play

- A.** Surplus energy: Physical energy which is not otherwise used seeks an outlet in some form, and if this is useless activity it is called play.
- B.** Preparation for future adult activities: Play is an instinct which activates children to do those things that will later be serious adult tasks (Groos).

- C. Recapitulation: The child's play interests at various age levels are vestiges of dominant racial interests at corresponding levels of evolution (Hall).
- D. Instinct: Play is the premature appearance of a primary instinct (McDougall).
- E. Relaxation: Play is a relaxation or change from routine tasks which may be fatiguing or boring (Patrick).
- F. Life is active: All organic beings are naturally active, and all activities which are not defined as work fall into the play category (Dewey).

II. Criteria of Play

- A. Characteristics.
 - 1. Pleasantness: The activity brings satisfaction.
 - 2. Freedom: The activity is spontaneous rather than forced.
 - 3. Motivation: In many forms of play there is a definite goal, the reaching of which brings pleasure.
- B. Definition: Activities and goals which are pursued for their own sake rather than for some extrinsic purpose.

III. Factors Influencing Play

- A. Age: The interests and activities of one age are quite different from those of another, but each stage develops gradually out of those which precede it.
- B. Sex: Boys and girls have some play interests in common and some which are typically different.
- C. Intelligence: Activities which depend upon mental alertness are selected by the bright and avoided by the dull child. There is much overlapping, however.
- D. Environment: The environment determines what is available for the children to play with.

IV. Values of Play

- A. Physical: Health building, muscle development, resistance to disease, self-confidence.
- B. Mental: New ideas are acquired, alertness is stimulated, and practice in judging, creating, concentrating and reasoning is provided.
- C. Social-emotional: Fair play, cooperation, following the rules of the game, sociability, and other social qualities are learned. Play activity prevents excessive daydreaming, offers an outlet for the emotions, and encourages democracy.
- D. Personality: Integration, perseverance, self-reliance, poise,

self-control, and optimism are developed in the best give and take play activities.

- E.* Educational: Because play is interesting, natural, and conducive to learning so many other things, some of its characteristics are gradually being introduced into methods of teaching, especially in progressive schools.

V. Studies of Play

A. Purpose

1. Mrs. Fenton observed the course of development during the first year.
2. Bott studied the activities of nursery school children to determine what kind of toys were most popular.
3. Van Alstyne studied the activities of nursery school children to determine how they react to various play materials and situations.
4. Farwell investigated the kind of materials first and second grade children preferred to use in construction play.
5. Various studies have been made of the most popular play activities at different ages.

- B.* Significance: Such studies might help toy manufacturers, kindergarten executives, or playground supervisors in their fabrication or selection of play material.

Chapter 15

PERSONALITY DEVELOPMENT, MALADJUSTMENTS AND MENTAL HYGIENE

I. Definition of Personality

The constellation of traits—mental, physical, moral, social, emotional, attitudinal—which characterize the individual.

II. Factors of Personality and Mental Hygiene

1. Physical factors: Height, weight, health, physical appearance, and defects all contribute toward a self-concept. Parents, adults, and friends adopt certain attitudes toward these factors and encourage the individual to do the same.
1. Mental hygiene of physical factors: Adults must be careful to avoid remarks or comparisons that will encourage the child to become a "sissy," to exaggerate his weaknesses, to feel too superior, to be vain, to feel sorry

for himself, to feel inferior, to pity himself, or to develop any attitude which interferes with wholesome personality development.

B. Mental ability: Quickness, accuracy, degree of intelligence, and parental attitudes toward them.

1. Mental hygiene of mental ability.

a. The bright child: Parents should not consider him so unusual that he develops superiority attitudes, is not encouraged to make social contacts with pupils his own age, or neglects his health for school work. Bright children frequently become indifferent, lazy, or lack persistence because their school work is not challenging enough. Care must be exercised to make sure they live up to their potential abilities without making them feel too different from other children in intellectual, social, or other respects.

b. The slow child: The limitations of the slow child must be recognized and respected. False parental attitudes of "He can do it if he will just try hard enough," must be tempered with the realization that there are real individual differences. He should be given a chance to develop at his own rate and develop his special aptitudes in such a way that he becomes a useful member of society.

C. Emotions: The way the child's physical needs are satisfied, the extent to which he is thwarted, the amount of love he is given, the number and kinds of things which frighten him, all determine the emotional stability of the child. Early emotional reactions that are stimulated and practiced soon become habits that determine personality and behavior.

1. Mental hygiene of emotions: The best mental hygiene is to avoid situations which cause fear, anger, jealousy, or other strong emotional reactions. Adults can set a good example of emotional control and stability. They should avoid compensations, rationalization, emotional abandon, emotional extremes, and excessive subjectivity. Skills and knowledges help greatly in dealing with emotion-provoking situations in an objective way.

D. Special interests and aptitudes: Parental attitudes and the child's acceptance of them are important. Children should discover their special talents and begin early to cultivate

them. Being successful in something has a tremendous influence on the interests and attitudes of the child.

1. Mental hygiene of interests and aptitudes: The child should be given tasks commensurate with his maturity and abilities. He should be successful most of the time so that he develops self-confidence, a sense of responsibility, initiative, and the desire to succeed again. His vocation should be selected on the basis of his interests, aptitudes, and the existing occupational opportunities.
- E. Environment: The factors of living in the country or city, in an apartment house or single family home, in a social or unsocial environment, in a congenial or broken home, with affectionate or stern parents, with or without siblings or other relatives in the home, in economic security or insecurity, or in a stimulating or inhibiting environment, influence greatly the attitudes, ideals, ambition, emotional stability, and personality of the impressionable child.
 1. Mental hygiene of the environment: Regular habits for routine physical requirements should be established, there should be neither too much nor too little affection or handling, responsibility and independence should be gradually developed, opportunities for work, play, and social participation, and a cheerful wholesome atmosphere should be provided as necessities for personality growth.

III. Symptoms of Personality Difficulties

- A. Attention getting devices: This is a natural tendency, but when overdeveloped or misused it leads to or is the cause of maladjustment.
- B. Enuresis: This may be a defense mechanism or may simply be a bad habit. The cause should be found and removed.
- C. Rationalization, negativism, and compensation. These are common symptoms of insecurity, failure, or thwarting. Give the child a taste of success, help him to develop skills and to acquire a sense of security, and encourage wholesome activities, so that he will have no need for defensive behavior.
- D. Nervousness and anxiety: Lack of security, fears, failures, thwarting, or other unfavorable conditions may cause a constant tension and a low threshold for irritating stimuli.

IV. Measurement of Personality

- A. The difficulty of measuring personality traits of young children.
- B. A study of the personality traits of one hundred children: No single factor is responsible, in and of itself, for a child's behavior; on the contrary, many factors, social and biological, lie behind the child's behavior.

Chapter 16

THE EXCEPTIONAL CHILD

I. The Bright Child

- A. Social importance of the gifted. From them must come our leadership in the economic, political, educational, technological, creative, artistic, professional, and other fields.
- B. Characteristics of the gifted.
 - 1. Mental: They belong to the upper one per cent of the population and test above 130 I Q.
 - 2. Physical: As a group they are slightly above average in strength, height, weight, and general health.
 - 3. Personality: They are slightly above the average in sociability, emotional stability, honesty, ability to lead, initiative, and many other personality and character traits.
- C. Problems of educating the bright child.
 - 1. Grade enrichment.
 - a. Advantages.
 - (1) He is encouraged to be more social and develop the same interests as those of his own age.
 - (2) He will not think of himself as a unique individual and become egotistical or indifferent.
 - b. Disadvantage: He is encouraged to shirk and develop lazy habits because it is difficult to administer special instruction to a small number of bright children in an average class.
 - 2. Grade acceleration.
 - a. Advantages.
 - (1) The bright child progresses at his own rate, getting through school sooner so he may continue with higher education.

- (2) He is encouraged to be industrious because he must do the work ordinarily required of older children.
- b. Disadvantages.
 - (1) Unless he goes on to advanced education, he is graduated so young that he does not fit into the commercial world.
 - (2) He becomes socially maladjusted since he is too young to fit into the older group in his class and he has lost the contacts of those his own age.
- 3. Special classes.
 - a. Advantages.
 - (1) All receive work which is at their level of ability, there is enough rivalry to prevent laziness.
 - (2) If there are enough in the class having common intellectual, social, and other interests there is no cause for personality maladjustment, egotism, or undemocratic comparisons.
 - b. Disadvantages.
 - (1) He may be adjusted to the small special group but he becomes so different from the average child that he is considered queer.
 - (2) He does not develop the same skills and interests as normal children so tends to become introverted and unsocial.
 - (3) Parents may aggravate his uniqueness by their attitudes of awe and solicitation.

II. *The Mentally Deficient Child*

- A Social importance of the deficient: They comprise about two per cent of the population, and the problem of educating them to be self-supporting and good citizens is important. Although this group can never contribute as much to society as they cost society, they are given far more attention than bright children; special schools are established and special educational programs provided.
- B. Characteristics of the deficient: I Q. is less than eighty. They are uneducable, or near uneducable in the ordinary school sense.
- C. Education of the deficient.
 - 1. Necessity of special class for the deficient.
 - a. Disadvantages of remaining in the regular class.
 - (1) The time of the capable student is wasted.

- (2) The time of the deficient pupils is wasted in that nothing is learned.
- (3) A sense of failure is developed.
- (4) Compensatory attitudes are developed.
- b. Advantages of a special class.
 - (1) Training is given which will help develop vocational skills, a sense of success, and social adjustment.
 - (2) Content of the course is geared to the special needs and aptitudes of the deficient, which are quite different from the normal.
- 2. Content of the special curriculum.
 - a. The three R's are limited to useful applications.
 - b. Practical hygiene is a necessity.
 - c. Scientific subjects which are useful may be adapted to the level of the slow group.
 - d. Art, music, drama, etc. may be taught and act as emotional outlets and stabilizers.

III. The Partially Seeing Child

- A. Frequency of partial blindness: Two out of every thousand pupils.
- B. Curriculum: This is kept as near normal as possible by the introduction of special methods and materials that will allow them to secure information.

IV. The Hard of Hearing

- A. Frequency: Ten per cent of the school population have varying degrees of partial hearing.
- B. Educational treatment: They should be kept in regular school by the aid of hearing aids or lip reading if at all possible.

V. The Crippled Child

- A. Frequency: Three hundred thousand.
- B. Educational treatment: Most children can be kept in regular class and should be treated as normal children. If unable to get to the regular school the responsibility belongs to the state, probably, for special schools.

VI. The Delicate Child

VII. The Child with Defective Speech

- A. Causes of speech defects.
 - 1. Organic: Harelip, malformation of the speech organs.

2. **Functional:** Poor habits, poor hearing, poor speech precepts, emotional maladjustments, and emotional tension.
- B. **Treatment:** Drill in correct habits, remove causes of nervous tension, and set good speech models in the home and school.

Chapter 17

THE PSYCHOEDUCATIONAL CLINIC

I. Nature

- A. A place for the examination, diagnosis, and treatment of childhood behavior and educational problems. Ideally staffed by psychiatrist, psychologist, physician, and social worker.
- B. The purpose is to give parents and teachers or the court expert advice in child guidance. Many child guidance clinics also treat the child directly by regular analytical interviews where habit and attitude patterns need to be changed. Improving parental attitudes and environmental conditions are important procedures.

II. Development

- A. Witmer established the first clinic in this country at the University of Pennsylvania in 1896.
- B. Healy founded what is now known as the Institute for Juvenile Research in Chicago in 1909. Later he became director of the Judge Baker Guidance Center in Boston, now directed by Augusta F. Bronner, his associate for many years.
- C. At present there are over two hundred child guidance clinics in this country. The Commonwealth Fund has been active in supporting and extending this service.

III. Functions

- A. **Service.**
 1. To help the individual make a better personality or other adjustment to his environment.
 2. Problems of grade placement in school—grade acceleration, failure in school, motivation, educational guidance.
 3. Delinquency problems arising out of the juvenile court. Many child guidance clinics have their cases referred

to them by the court, and the disposition of the delinquent is largely in the hands of the clinic.

4. Vocational guidance and selection.
- B. Research: Some clinics attempt to make scientific contributions to the subject of child guidance, child development, physical defects, or delinquencies besides carrying on the service function.
- C. Educative: A very few exist for the purpose of giving training to those who are interested in child guidance work.

IV. Types of Clinical Problems

- A. Behavioral: Children who are "problems," nervous, truant, delinquent, antisocial, psychopathic, or unstable. Problems of discipline, stealing, lying, temper, sex, running away, enuresis, thumb sucking, and nervousness are among the most common.
- B. Educational: Testing for intelligence, grade placement, homogeneous grouping, special talents, or subject achievement; problems of the subnormal and the gifted, grade acceleration, subject failures, and remedial instruction; personality and social adjustment in the school as well as special problems of discipline and conduct.
- C. Physical: Physical defects may cause psychological problems. Common physical defects are sensory defects, physical deformities, toxic conditions, endocrine imbalance, epilepsy, paralysis.

V. The Clinic: Its Staff and Training

VI. The Child Guidance Conference

Chapter 18

CHILD DEVELOPMENT THROUGH EDUCATION

I. Nature of Child Development

It is unitary in that the child is an integration of intellect, emotion, physique, personality, and character. It is necessary to analyze, to study the various aspects of development, but one must be sure to come finally to an organismic view of the child, to a recognition that it is the whole child that is being educated.

II. *Nature of Modern (Progressive) Education*

A. Aims of the progressive school.

1. Provision of an environment in which the child may make the best use of his ability.
2. Promotion of socially desirable development.
3. Encouragement of ability to make wise choices, social responsibility, self-realization, self-reliance.
4. To make education:
 - a. Child centered instead of curriculum centered.
 - b. Social centered instead of self-centered.
 - c. Life centered instead of artificially centered.
 - d. Purpose centered instead of formally centered.

B. Extension of education.

1. It extends school attendance.
 - a. Informally: Education is a matter of development from birth to death.
 - b. Institutionally.
 - (1) The kindergarten extends the time downward.
 - (2) Junior colleges extend the time upward.
 - (3) Boarding schools extend the time spent in school per day.
 - c. Advantages of extension: The chances of becoming socialized are increased.
2. It extends the curriculum.
 - a. Physical education is introduced.
 - b. Music becomes a regular part of the curriculum.
 - c. Practical arts are taught in the interest of better living.
 - d. Creative activities—dramatic art, music, painting—are stressed as appreciations and emotional outlets. The child learns through doing something real (project method).
 - e. Civic responsibilities are emphasized.
3. It extends the consecutive time allowed a subject: The day is not divided into periods for spelling, reading, or arithmetic. Instead, a goal is set and all efforts are directed toward reaching it even at the expense of other things for days.
4. It extends the scope of education beyond institutional walls.
 - a. From birth to death.
 - b. From books to life situations.

- c.* From memorizing to doing.
- d.* From aversion to numerous interests.
- 5. It extends the guidance function of teachers.
 - a.* Interests, skills, knowledges will be introduced at the level of maturity, or readiness, appropriate for each pupil. Guidance becomes individual.
 - b.* The pupil will see the need for what he is doing. He cannot reach his goal until he masters each step in the process of doing it. The teacher helps the pupil when asked and sets up challenging goals.

Index of Names

- Abt, H. E., 417
 Achilles, P., 64
 Ackerson, L., 427, 439
 Adams, S., 417
 Adhern, M. J., 289
 Adler, A., 439
 Albers, E., 387
 Allers, R., 271
 Allport, F. H., 120
 Allport, G. W., 386
 Almack, J. C., 72
 Alpert, A., 208
 Anderson, I. N., 427, 439
 Anderson, H. H., 128
 Anderson, J. E., 10, 18, 20
 Anderson, R. G., 439
 Andrews, C. F., 281, 297
 Anrep, G. V., 45, 203
 Antony, M., 154
 Arey, L. B., 33, 52
 Arlitt, A. H., 251, 407
 Armstrong, L. V., 245
 Arrington, 342
 Arthur, G., 213, 439
 Averill, L. A., 386, 389
 Avery, E., 417

 Bagby, E., 163, 179
 Bailey, E. W., 128, 448
 Bainton, J. H., 409
 Baker, H. J., 425, 439
 Baker, H. V., 378
 Baldwin, B. T., 59
 Ballard, P. B., 134
 Bancroft, J. H., 105
 Barnard, E. F., 464
 Barry, J., 323
 Bayley, N., 78, 79, 84, 105, 179, 186,
 197, 488
 Baylor, E., 271

 Bean, C. H., 131
 Bender, J. F., 418
 Benjamin, H., 323
 Bentley, J. E., 435
 Betts, E., 323
 Betts, G. H., 297
 Bienstock, F. S., 96
 Binet, A., 5, 176, 421
 Bishop, E. L., 128
 Blanchard, P., 439, 440
 Blanton, M., 413
 Blanton, S., 48, 413
 Blumer, H., 293
 Bode, B. H., 457, 464
 Bossard, J. H. S., 245
 Bott, H., 340, 341, 343, 346, 500
 Bower, W. C., 271, 297
 Boynton, P. L., 12, 13, 20, 71, 196
 Bracc, D. K., 105
 Bradway, K. P., 402
 Brahms, J., 321
 Bramard, P., 378
 Braucher, H. S., 98
 Breckenfeld, I. J., 103
 Bridges, K. M. B., 158, 227, 485
 Brinton, J. H., 418
 Broer, M. R., 94, 106
 Bronner, A. F., 506
 Brooks, F. D., 11, 14, 20, 71, 95, 103,
 215, 251, 271, 273, 348, 386
 Brown, I. J., 271, 288, 291, 297
 Brown, W., 417
 Brubacher, J. S., 454, 464
 Bruckner, L. J., 439
 Brunswick, L., 402
 Bryan, W. L., 101
 Bühler, C., 71, 78, 79, 84, 112, 179,
 215, 223, 224
 Buhler, K., 197
 Burk, C. F., 115

- Burnham, W. H., 386, 439, 455, 456,
 464
 Burt, C., 386, 439

 Caesar, J., 154
 Caldwell, O. W., 197
 Cannon, W. B., 43, 179
 Carmichael, L., 52, 74
 Castner, E. N., 84
 Chadwick, H. D., 408
 Chapman, E. D., 20
 Chapman, V., 450
 Charters, W. W., 271
 Chase, 343
 Chave, E. J., 271
 Chenoweth, L. B., 59
 Child, C. M., 6
 Coc, G. A., 271, 297
 Coghill, G. E., 54, 76, 180
 Cohon, B. D., 290
 Coleman, S. N., 323
 Cowan, J. A., 431
 Cozens, F. W., 106
 Crampton, C. W., 80
 Crow, A., 378
 Cunningham, B. V., 87
 Curtu, M. W., 46, 47, 215, 251, 271,
 346, 386, 464

 Dale, E., 267, 271
 Darwin, C., 162
 Davenport, C. B., 52
 Davis, E. A., 152
 Davis, R. A., 102
 Day, F. J., 151
 Dealey, W. L., 90
 Dearborn, W., 431
 Delman, L., 77
 Dennis, W., 180
 De Porte, J. V., 409
 Descartes, R., 157
 Desjardins, L., 278, 297
 De Voss, J. C., 389
 Dewey, F., 271
 Dewey, J., 323, 328, 340, 464, 499
 Dickinson, E., 320
 Dickson, V. E., 439
 Doll, E. A., 5, 238, 239, 423, 430
 Dorsey, J., 417
 Douglas, O. B., 52, 215
 Drever, J., 150

 Durant, W., 297
 Dvorak, A., 90

 English, H. B., 213
 Ets, M. H., 20
 Evans, K., 278

 Farwell, L., 342, 346, 500
 Faulkner, L., 323
 Fenton, J. C., 18, 20, 156, 176, 179,
 184, 357, 340, 346, 500
 Fenton, N., 433, 439
 Fernald, M. R., 407
 Fernald, W. E., 430, 439
 Fisher, M. S., 130, 148, 153
 Fiske, J., 180
 Fitch, K. S., 239
 Fletcher, J. M., 153
 Flory, C. D., 180
 Ford, G. C., 90
 Forman, H. J., 266, 271, 293, 298
 Frederick, R. W., 101, 102, 123, 128,
 153
 Freeman, F. N., 197
 Freud, S., 162
 Freyd, M., 378
 Fritsch, H. E., 272
 Purvey, P. W., 251

 Galton, F., 13, 187
 Gandhi, M., 281
 Garrett, H. E., 6
 Garrison, C. G., 346
 Garrison, K. C., 418
 Garth, T. R., 195
 Gates, A. I., 106, 213
 Gentile, G., 454
 Germane, C. and E., 271
 Gesell, A. L., 3, 4, 13, 14, 15, 16, 20,
 29, 48, 52, 71, 75, 78, 79, 84, 86, 106,
 153, 156, 179, 183, 184, 186, 196,
 197, 251, 488
 Gibbon, H. L., 267
 Gilbert, J. A., 95
 Gilbert, M. S., 52
 Glasgow, R. B., 94, 106
 Glover, K., 271
 Glueck, S. and E., 439
 Goddard, H. H., 391, 392, 418, 426
 Goldman, L., 290
 Golubin, A., 414

- Goodenough, F. L., 11, 20, 39, 42, 48,
 71, 103, 153, 168, 179
 Graber, G. H., 162
 Graves, A. D., 433
 Griffith, C. R., 106
 Grinshaw, J. G., 298
 Groos, K., 326, 346, 498
 Gulick, L. H., 330, 346

 Habbe, S., 402
 Haggerty, M. E., 323
 Hagman, E. R., 179
 Haines, T., 431
 Hall, C. B., 401
 Hall, G. S., 8, 13, 326, 327, 499
 Hanna, P. R., 245
 Hardin, E., 20
 Harter, N., 101
 Hartman, G., 323
 Hartshorn, H., 256, 268, 271, 291,
 292, 298, 494
 Hatwick, M. S., 96
 H'Doubler, M. N., 97
 Healy, W., 420, 427, 431, 439, 506
 Heaton, K. L., 271
 Heck, A. O., 135
 Hetzer, H., 78, 79, 84, 112
 Hierholzer, H. M., 196
 Hildreth, G., 88, 145, 153, 425, 439
 Hill, H., 378
 Hill, L. B., 20
 Hillehoc, G. L., 418
 Hissong, C., 464
 Holland, B. F., 52, 215
 Hollingworth, L. S., 388, 389, 418
 Holt, E. B., 198
 Homburger, A., 373
 Howard, F. E., 440
 Howett, H. H., 406
 Huey, F. B., 420, 430
 Hullfish, H. G., 464
 Hurlock, E. B., 211
 Husband, R. W., 207

 Ide, G., 440
 Irwin, O. C., 55

 James, W., 284
 Jenkins, L. M., 106
 Jennings, H. S., 25, 29, 197
 Jensen, A., 71, 298
 Jensen, K., 77

 Jersild, A. T., 20, 64, 96, 104, 179, 215
 474
 Job, 162
 Johnson, A. W., 289
 Johnson, M. W., 128
 Johnson, W., 412
 Jones, H. E., 72, 201
 Jones, M. C., 157, 201

 Kagawa, T., 284, 298
 Kanner, L., 376, 440
 Kawin, E., 346
 Keller, H., 414
 Kellogg, W. M. and L. A., 60, 61, 473
 Kelly, W. and M. R., 20
 Kilpatrick, W. H., 453, 454, 464
 Kinsculla, H. G., 323
 Kleinfeld, V. M., 418
 Koffka, K., 206
 Krapelin, E., 16
 Kreindler, A., 203
 Kuhlmann, F., 420

 Laird, D., 431
 Landis, C., 172
 Lane, R. H., 271, 452, 453, 464
 Larson, J. A., 171
 Lasker, B., 251
 Laton, A. D., 128
 Laycock, S. R., 389
 Lee, J., 346, 405, 406
 Lee, M. V., 407
 Lee, P. R., 440
 Lehman, H. C., 115, 128, 327, 332,
 343, 344, 346
 Levine, A. J., 440
 Lewin, K., 123, 229, 251, 371, 372, 373
 Linfert, H. E., 196
 Little, N. F., 153
 Locke, J., 8, 180
 Lombardo-Radici, G., 464
 Louttit, C. M., 424, 426, 430, 440
 Lowrey, L. C., 427, 440
 Lund, F., 179

 Macaulay, T. B., 176
 Macfarlane, Jean W., 45
 Madden, R., 402, 418
 Maller, J. B., 122
 Maple, K. H., 106
 Marinisco, G., 203

- Markey, J. K.**, 153
Marquis, D. P., 203
Martens, E., 440
Martens, E. H., 393, 396
Martin, L. C., 390
Mason, B., 246, 346
Mateer, F., 440
Mathews, J., 378
May, M., 268, 271, 291, 292
McBride, E., 418
McCarthy, D. A., 129, 150, 153
McDougall, W., 32, 110, 157, 161, 205, 327, 470, 490, 499
McGraw, M. B., 29, 61, 77, 106, 474
McGuffey, W., 269
McKibben, F. M., 297, 298
McKown, H. C., 271
McLeod, B., 418
Mead, C. D., 150
Mearns, H., 323
Melby, F. O., 439
Merrick, N., 90
Merrill, M. A., 186, 213, 440, 488
Merry, F. K. and R. V., 20
Meyer, H. H., 289
Meyer, M. F., 97, 135, 403
Minkowski, M., 54
Mitchell, E. D., 346
Monachesi, F., 271
Monroe, M., 440
Monroe, P., 328
Moore, K. C., 131
Moreno, J. L., 228, 236, 251
Morgan, J. J. B., 72, 197, 215, 251, 346, 386, 440, 464
Morgan, T. H., 52
Munn, N. L., 52
Munio, H. C., 298
Murchison, C., 10, 18, 21, 52, 54, 72, 74, 76, 86, 108, 112, 123, 128, 132, 153, 157, 179, 215
Murphy, G., 217, 218, 221, 225, 226, 229, 230, 237, 252, 383, 386
Murphy, L. B., 217, 218, 221, 225, 226, 228, 229, 230, 237, 252, 383, 384, 386
Murphy, M., 394, 395, 396
Musico, B., 103
Myers, G. C., 391, 392

Nash, J. B., 346
Nelson, A. K., 52

Newcomb, T. M., 217, 218, 221, 225, 226, 229, 230, 237, 252, 383, 386
Nice, M. M., 141
Nielson, N. P., 106
Norsworthy, N., 252, 274, 278, 346

Oates, A. W., 135
Oehrn, A., 16
Ogden, R. M., 176
Olson, W. C., 11, 252, 431, 440
Orton, S. T., 135, 440
Outland, G. E., 245

Parker, F., 445
Parson, B. S., 85, 135
Partridge, E. D., 128
Patrick, G. T. W., 327, 328, 346, 499
Patry, F. L., 440
Patterson, W. M., 97
Pavlov, I. P., 45, 203
Paynter, R. H., 440
Peck, L., 403
Perkins, J. E., 298
Perrin, F. A. C., 103
Perrine, V. D., 323
Pestalozzi, J. H., 17
Peterson, J., 108
Phelps, W. L., 323
Paget, J., 129, 153, 160, 207, 215, 271, 272
Pintner, R., 420, 431
Plant, J. S., 272
Plante, A., 416
Plato, I., 281
Porter, E., 323
Potter, J. R., 80
Powers, F. G., 179, 197, 387
Pratt, K. C., 52, 76
Prescott, D. A., 179
Pressey, S. L. and L. C., 14, 60, 378
Preston, I. D., 80
Preyer, W., 18

Quinan, C., 135

Ragsdale, C. E., 101, 102, 103, 123, 128, 153
Rand, W., 197
Kazran, G., 203
Reany, M. J., 103
Richmond, W. V., 386
Richter, C. P., 41

- Riggs, A. S., 298
 Risden, G., 5
 Rivlin, H. N., 252, 386
 Rodin, A., 323
 Rogers, F. R., 94
 Rogers, J. E., 335, 346
 Rogers, J. F., 410
 Root, E. T., 298
 Rosenblatt, L., 315, 323
 Rousseau, J. J., 8, 174
 Ruckmick, C. A., 171, 179
 Rugg, H., 128, 464
 Russ, H., 440

 Saalburg, A., 320
 Salisbury, F. S., 52
 Salisbury, R., 101, 102, 123, 128, 153
 Samuelson, E., 403
 Sandiford, P., 25, 52
 Sayles, M. B., 252, 386, 440
 Scheinfeld, A., 51, 52
 Schilder, P., 406
 Schiller, F., 325
 Schneek, M. R., 6
 Schultze, R., 171
 Schwesinger, G. D., 52
 Scupin, E. and G., 18
 Seashore, R. H., 96, 103
 Shaffer, L. F., 71, 163, 215, 348, 386
 Shelley, P. B., 169
 Sherman, I. C., 42, 180
 Sherman, M., 42, 157, 158, 172, 180,
 252, 386, 440, 485
 Shields, T. F., 188, 189
 Shunn, M., 18, 183
 Shirley, M. M., 48, 52, 78, 79, 148,
 153, 181
 Shock, N. W., 72
 Shumaker, A., 128, 323
 Sievers, C. H., 96
 Simon, T., 421
 Simpson, B. R., 189
 Sims, V. M., 378
 Skelcs, H. M., 190
 Skinner, C. E., 21, 72, 179, 184, 197,
 215, 283, 298, 387, 440, 441
 Smart, R. C., 103
 Smith, G., 426, 440
 Smith, J. J., 278
 Smith, M. E., 140, 153
 Sontag, L. W., 43
 Spencer, H., 325

 Stearns, M. M., 464
 Sterling, E. B., 411
 Stern, W., 18, 156
 Stevenson, G. S., 426, 440
 Stevenson, R. L., 447
 Stoddard, G. D., 7, 21, 72, 215, 272, 346
 Stow, L. E., 61, 62, 473
 Strachan, L., 410
 Strang, R., 21, 48, 215, 378
 Sun, K. H., 52
 Sweeny, M. E., 197
 Swift, E. J., 101
 Swift, S. H., 440
 Symonds, P. M., 268, 272, 431, 440

 Taylor, G. A., 106, 213
 Teagarden, F. M., 376, 386
 Terman, L. M., 5, 72, 150, 186, 194,
 213, 346, 355, 359, 386, 387, 392,
 416, 440, 488
 Thom, D. A., 128
 Thomas, D., 252, 386
 Thomas, W. I., 252, 386
 Thompson, H., 29, 71, 78, 79, 86,
 197, 251
 Thomson, J. A., 1
 Thorndike, L. L., 205
 Thorndike, R. L., 189
 Thorpe, L. P., 128
 Thrasher, F. M., 245
 Thurstone, L. L., 431
 Tiedemann, D., 18
 Tietz, J. W., 197
 Tomlin, M. I., 378
 Toscanini, A., 28
 Triaphagan, V., 425, 439
 Travis, L. E., 86, 132, 134, 135, 153,
 418
 Tredgold, A. F., 36
 Troland, L. T., 128
 Trout, D. M., 298

 Uhl, W. L., 387
 Updegraff, R., 190

 Valentine, C. W., 18
 Van Alstyne, D., 341, 342, 345, 346, 500
 Van Loon, H. W., 323
 Vincent, E. L., 197
 Viola, W., 323
 Vitcles, M. S., 395, 416

- Wagoner, L. C., 128, 153
Wallace, R., 43, 439
Wallin, J. E. W., 135, 418, 420, 423,
424, 430, 441
Walsh, M. E., 192
Walter, H. E., 52
Walters, C. E., 94
Ward, W., 324
Warden, M., 129, 153
Warren, D., 324
Washburn, R. W., 220, 222
Washburne, C., 259, 260
Washburne, J., 431
Watson, G. B., 298
Watson, J. B., 18, 30, 42, 157, 485
Weigle, L. A., 291
Weiss, A. P., 16, 55
Weiss, L. A., 203
Welles, O., 155
Wellman, B. L., 21, 72, 103, 106, 189,
190, 272, 315, 346
West, Mrs. Max, 43
West, P. V., 298
Westburgh, E. M., 441
Wexberg, E., 272
Whipple, G. M., 18, 91, 93, 106
White, M. D., 11
Whitley, M. T., 252, 274, 278, 346
Wickman, E. K., 247, 248, 252, 441
Wild, M. R., 87, 88
Williams, H. M., 96, 153, 190
Winslow, L. L., 324
Witmer, L., 419, 420, 431, 441, 506
Witty, P. A., 21, 72, 115, 128, 179,
184, 187, 215, 327, 332, 343, 344,
346, 387, 441
Wolf, T. H., 252
Wood, T. D., 59
Woodworth, R. S., 378
Wordsworth, W., 8
Wunsch, R., 387
Young, P. T., 119, 128
Zabriskie, L., 52
Zacks, D., 408
Zipf, G. K., 153
Zyve, C. T., 138

Index of Subjects

- Abnormal, 186
- Acceleration, or enrichment, 392 f.
- Achievement standards, physical, 97-99
- Adaptive behavior, first year, 48-50
- Adolescence, plays during, 332
- Adolescent, his social development, 233 ff.
- Adrenals, 66
- Aesthetic emotions, 176
- Aesthetic experience, Chapter XIII
 - nature of, 299 ff.
 - aesthetic experience, 303-305
 - aesthetic development, 305 ff.
 - see also* Appendix, 497-498
- Aesthetics; *see* Aesthetic experience
- Age-weight-height table, 59
- Ambivalence of emotions, 161-162
- Anatomical age, 65
- Anxiety, 377 f.
- Appendix, 465 ff.
- Aptitudes, 348, 367, 369
- Arm-hand control, 83 ff.
- Art, and religion, 288, 294
- Arthur point scale, 431
- Attention getting, 376
- Attitudes, 365, 367 ff.
- Atypical, 186

- Babinski reflex, 48, 50
- Behavior, of fetus, 54
- Bell adjustment inventory, 431
- Bernreuter personality test, 431
- Binet-Simon scale, 17, 86, 421, 430
 - see also* Stanford-Binet scale
- Biographical method, 17-18
- Boarding school, 450 f.
- Bond formation, 204 f.
- Bright or gifted child, 189, 194, 355, 356, 359 ff., 398 ff.

- Camps, 245
- Cardiac condition, 409
- Case history, 14
- Character development, Chapter XI
 - nature of character, 253-254
 - factors associated with, 254, 255
 - theories and principles, 255-257
 - development, 257-268
 - measurement of, 268 f.
 - see also* Appendix, 493-495
- Character tests, 268 f.
- Check list, 10
- Child development, Chapter I
 - goal of, 1 f.
 - see also* Appendix, 465-467
- Child development through education, Chapter XVIII; *see also* Education
 - development a unitary process, 442 ff.
 - see also* Appendix, 507-509
- Child Guidance
 - goal of, 1 f.
 - of emotions, 173-176
- Child guidance conference, 433 ff.
- Child nature, 7-8
 - and motivation, 109 f.
- Child Psychology
 - meaning and scope, 6-7
 - methods of, 9-19
- Chromosomes, 23-27
- Church, 264
- Class school, 291
- Civic responsibilities, 454
- Clinical method, 17, 419, 430 ff.
- Clubs, 245, 262, 268
- Collecting tendencies, 115
- Community, a factor in character
 - building, 266 ff.
- Community survey, 11

- Compensation, 376 f.
 Conditioning, 44 f, 202 ff
 Conduct disorders, 246 ff
 Control group, 15
 Creative activities, 453 f.
 Cretinism, 66
 Crippled child, 405 ff.
 Curriculum, 451

 Daydreaming, 377
 Deceit, studies of, 291 f
 Defective child, *see* Mental deficiency
 Delicate child, 406 ff
 Development, first year, 38 ff
 Development norms, for first year, 48-50
 Development viewpoint, 2 f
 Dictionary of psychology, 197
 Downey will temperament test, 431
 Drawing, 147

 Education, Chapter XVIII
 and child development, 442 ff
 expanding concept of, 443 ff
 extensions of program, 446 ff
 guidance, 459 ff
 Egotic tendencies, 113
 Emotional behavior
 in neurotic, 41 f
 Watson's study, 42
 Sherman's study, 42
 Goodenough's study, 42
 Cannon's theory of, 43
 emotion and motivation, 109
 emotion and social development, 232 f
 emotion and religion, 282
 emotion and personality, 348, 362, ff
 Emotional development, Chapter VII,
 see Emotions
 Emotional maladjustments, 189
 Emotions
 nature of, 154 ff
 genetic approach to, 156
 "original" emotions, 157-159, 363 ff.
 and motive, 159 ff
 fear and its elimination, 162-165, 169 f
 self-confidence, 165-167
 rage, 167-169
 how studied, 171-173
 guidance of, 173-175

 Emotions, aesthetics, 176
 see also Appendix, 484-487
 Enrichment, or acceleration, 397 f.
 Enuresis, 376
 Environment
 and language, 150
 and personality, 348, 371 ff, 374 f
 Evaluation, of character, 268 f
 Exceptional child, Chapter XVI,
 see also Bright child, slow child, etc.
 gifted, 388 ff
 mentally deficient, 393 ff
 partially seeing, 397 f
 hard of hearing, 401 ff
 the crippled child, 405 ff
 the delicate child, 408 ff
 the speech defective, 412 ff
 see also Appendix, 503-506
 Experimental cabinet, 16
 Experimental methods, 15
 Extension work, 455

 Factor analysis, 16
 Family environment, 244
 Fatigue, 95 f
 Fear, 162-165, 169 f, 201, 265
 Feeble-mindedness, 188-195, 285
 diagnosis of, 421
 Field forces, 123-126
 First year, 38-43, 44-47
 Forcing method, 213
 Fundamental and accessory, 68 f

 Gangs, 245
 Genes, 25
 Gestalt view of learning, 206-208
 Gifted or bright child, 189, 194, 355, 356, 359 ff, 388 ff
 Glands, 65-67, 348, 362, 363
 Goals, in learning, 205
 Gonads, 67
 Group attitudes, 218
 Growth, 2 ff
 norms of, 58 f
 Guidance
 in teaching ideas, 208 f.
 a function of teachers, 459
 techniques, 460 f

 Halo, 12
 Handedness, 85-86
 and speech disorder, 135 f, 149

- Hand preferences, 85 86
- Handwriting, 88-90
- Hard of hearing, 401 ff
- Headaches, 377
- Health, a factor in social development, 242
- Heredity, Chapter II
 - principles of, 22 f
 - process of, 23 f
 - significance of, 27 f
 - and environment, 28 f
 - and mental growth 196
 - see also* Appendix, 467 473
- Home, 263
- Homogeneous grouping, 391
- Hygiene, of development, 69-70
- Ideas, 206 f
- Imaginary illness, 377
- Individual differences, 46 47
 - in learning 212 ff, 220, 224
 - in play, 331
- Individuation, 6
- Infancy 55
- Inheritance *see* Heredity
 - of traits 25 ff
 - of acquired characters, 32
- Insight, 206
- Instinct 30, 109, 161, 327
- Integration, 6
- Intelligence, Chapter VIII, *see also*
 - Mental growth
 - language ability 149
 - beginnings of, 180 ff
 - measurement of, 183 ff
 - individual differences, 186 ff
 - constancy, 188 f
 - see also* Appendix, 487 489
- Interests 367 ff
 - developing of, 458 f
- I Q, 336, 358, 359, 379, 380, 381, 389, 390, 394
- Junior college, 449
- Kuhlman-Binet scale, 431
- Lamarckian theory, 32
- Language, Chapter VI
 - functions of, 129 f
 - silent 130
 - child's development of, 230
- Language, kinds of, 130 f
 - disorders, 132 ff
 - word meaning, 136
 - growth changes in language form, 140 f
 - development of special kinds, 141
 - reading and writing, 142 f
 - foreign language, 145
 - and environment, 150 f
 - see also* Appendix, 481-484
- Leadership, 237
- Learning, Chapter IX
 - motor, 100 ff
 - and word meaning, 136 ff
 - importance of 196
 - perceptual 199 202
 - theories, 202 203
 - aspects of, 203 214
 - typical curves of, 210
 - motives, 211 f
 - effect of practice 212
 - age differences in 212 f
 - see also* Appendix, 489 491
- Lip reading, 404 f
- Locomotion, 81 ff
- Maladjustments, 247
- Mass activity, 181
- Maturation 29 64, 181
- Measuring, 136 f, 206 f
- Memory span 213
- Mendelian principle, 27, 29
- Mental ability and personality, 347, 353 ff
- Mental deficiency and mentally deficient child, 393 ff
 - see also* Feeble-mindedness
- Mental development 182
 - see also* Intelligence, and Mental growth
- Mental growth Chapter VIII, *see also*
 - Intelligence
 - mental equipment of newborn, 180 ff
 - factors related to 194 ff
- Mental hygiene 353 ff 362
 - of emotions, 366 f, 374 ff, 403 f
- Mental hygienists, versus teachers on behavior problems, 247 249
- Mental tests, 431
- Merrill-Palmer tests 431
- Minnesota preschool tests 431

- Moro reflex**, 48
Motivation, Chapter V
 nature of, 107 f.
 problems of, 108 f.
 child nature, 109 f.
 tissue needs, 110 f.
 social needs, 112 f.
 egotic tendencies, 113 f.
 collecting tendencies, 115
 environmental factors, 115 ff.
 punishment, 116 f.
 satisfyingness, 118 f.
 topological, 123 ff.
 and learning, 205, 211 f.
 and play, 330
 see also Appendix, 478-481
Motor abilities, 103 f.
Motor control, 94
 of speech, 132
 disorders of, in speech, 132 ff.
Motor development, Chapter IV
 first year, 48-50
 importance of study of, 73 ff.
 in fetus and neonate, 74-77
 posture, 78 ff.
 locomotion, 81 ff.
 arm-hand control, 83 ff.
 hand preferences, 85 f.
 throwing, 86-88
 handwriting, 88 f.
 typewriting, 90 f.
 general aspects of, 91 ff.
 standards, 97 ff.
 motor learning, 100 ff.
 motor abilities, 103 f.
 see also Appendix, 475-477
Motor endurance, 95
Motor learning, 100 ff.
 principles of, 100 f.
 rate of, 101 f.
 efficiency in, 102 f.
Motor rhythm, 96 f.
Movement
 speed of, 91
 accuracy of, 92-93
 steadiness of, 94
Movies, 292 f.
Muscular strength, 94 f.
Mutations, 28

Negativism, 376 f.
Neonate, 38, 39, 55, 74 ff.

Nervousness, 377 f.
Norms, 46, 58-60
Nursery school, 447

Open window schools, 409
Original nature, and character, 257

Parathyroids, 66
Parents' responsibility, 370
Partially seeing child, 397 f.
Perceiving, 199 ff., 201
Perceptual learning, 199-202
Perceptual motor, speech control,
 131 ff.
Performance levels, 213
Personality, Chapter XV
 and religion, 283 ff.
 and play, 336 f.
 defined, 347
 factors of, 347 ff.
 deviations and abnormalities, 351 ff.
 effect of interests and aptitudes,
 367 ff.
 mental hygiene, 359 ff., 362, 366 ff.,
 374 ff.
 Lewin's dynamic theory of, 371 ff.
 difficulties, 376 ff.
 measurement, 378 ff.
 see also Appendix, 500-503
Personal-social behavior, first year,
 48-50
Phobia, 162 ff.
Photographic dome, 16
Physical achievement standards, 97-99
Physical growth and development,
 Chapter III
 importance of, 53
 early, 53 f.
 aspects of, 56 ff.
 sources of data, 58
 records of, 60 ff.
 curves of, 57, 61, 62
 maturation and, 64 f.
 muscular, 68-69
 hygiene of, 69-70
 and environment, 373
 see also Appendix, 473-474
Pineal, 66
Pintner-Paterson performance scale,
 431
Pituitary, 65

- Play, Chapter XIV**
 and religious development, 294 f.
 theories of, 325
 criteria of, 328 ff.
 definition of, 330
 age differences, 331
 sex differences, 331 f.
 mental differences, 332
 environmental differences, 332 f.
 values of, 333 ff.
 studies of, 339 ff.
 levels of, 343 ff.
see also Appendix, 498-500
- Pollyanna mechanism, 283**
- Posture, 78 ff.**
- Practical arts, 452**
- Pre-adolescent child, social development of, 229 ff.**
- Prenatal development, 32 f.**
 significance of, 34 f.
- Prenatal influences, 35 ff.**
- Prenatal period, 43 f.**
 guidance principles, 43 f.
- Pre-school child**
 social responses of, 225-226
 social development of, 226 ff.
- Progressive school, 446**
- Psychiatric examination, 432**
- Psychoanalysis, 17**
- Psychoeducational clinic, Chapter XVII**
 defined, 419 ff.
 function of, 422 ff.
 types, 423 ff.
 its staff, 428 ff.
 child guidance conference, 433 f.
see also Appendix, 506-507
- Psychophysical methods, 14 f.**
- Punishment, 116 f., 373 f.**
- Purposive striving, 205**
- Questionnaire, 11-13**
- Racial differences, 195**
- Rage, 167-171**
- Rating scales, 11-13, 378**
- Rationalization, 376 f.**
- Recapitulation theory, 8, 326 f.**
- Recreation, 243**
- Reflex behavior, 181**
 of neonate, 40 f.
 first year, 48-50
- Relaxation theory, of play, 327 f.**
- Religion**
 and the home, 286 f.
 and the school, 289
 and art, 292 ff.
 and play, 292 ff.
- Religious development, Chapter XII**
 nature of, 273
 objectives of, 274 f.
 in childhood, 276 ff.
 and personality, 283 ff.
 agencies for guiding, 286 ff.
see also Appendix, 495-497
- Responses to others, 223**
- Rest therapy, 410 f.**
- Rhythm, 96-97**
 in speech, 132 f.
- Rorschach test, 431**
- Satisfyingness, 118 f., 370**
- School, 261**
- Scientific method, 18-19**
- Segregation in school, 391, 392**
- Self-confidence, 165-167**
- Sensation, 200 f.**
- Sensory defects, 397 ff.**
- Sensory functions, in neonate, 39 f.**
- Sex differences**
 in language ability, 149
 in play, 331
- Sex-linked traits, 27**
- Sight-saving curriculum, 398 f.**
- Situational analysis, 11**
- Slow child, 357, 362**
- Smiling response, 221 ff.**
- Social adjustment, and motor ability, 104**
- Social attitudes, 216**
- Social behavior, 216 ff., 335**
- Social development, Chapter X**
 nature of, 216 ff.
 in childhood, 219 ff.
 smiling, 221 ff.
 responses to others, 223
 of pre-school child, 225-229
 of pre-adolescence child, 229 ff.
 factors affecting, 242-246
see also Appendix, 491-493
- Social habits, 231**
- Social heritage, and heredity, 348 f.**
- Social maturity, measurement of, 238 ff.**

INDEX OF SUBJECTS

- Social situations, 120
- Special class, 394 ff
- Special curriculum, 396
- Speech
 - control of, 131 ff
 - disorders of, 86, 132 ff, 149, 412 ff
 - correction, 414
- S-R bond, 204 f
- Stammering and stuttering, 86, 132 ff, 373
- Stanford-Binet scale, 47, 186, 196, 213, 431
- Stuttering and stammering, 86, 132 ff, 373
- Subjective observation, 9-11
- Surplus energy theory of play, 325 f
- Swimming, 82
- Talent, 30
- Teachers attitudes, and children's problems, 247 ff
- Tests, of character, 268 f
- Thun' ing, 130
- Throwing, 86-88
- Thumb sucking, 45 f
- Thymus, 66
- Thyroid, 65-66
- Topological motivation, 123 ff.
- Toys, 339 ff
- Traits, 383
- Typewriting, 90-91
- Vineland social maturity scale, 238-242
- Vocabulary, growth in, 137-140
- Vocalization, in infancy, 131
- White House Conference Report, 72, 197, 335, 392, 405, 418, 441
- Woodworth personality inventory, 431